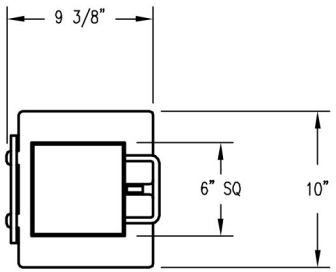
APPENDIX B

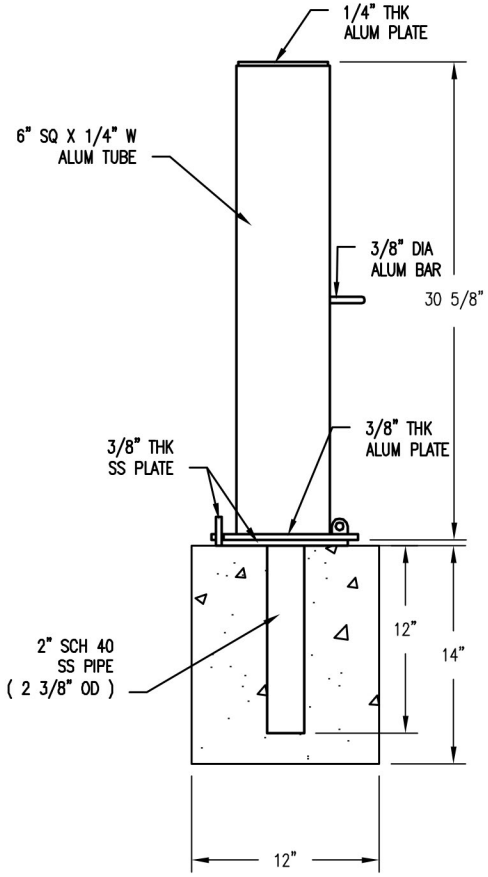
STANDARD PLANS

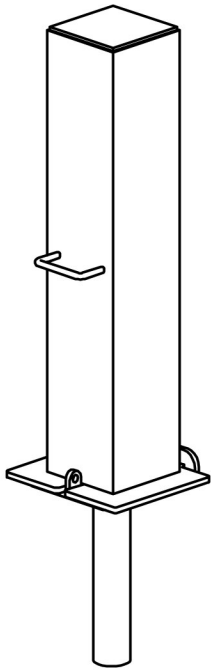
Appenidx B – Standard Plans

69-776	BOLLARD	
B05.20-02_e	CATCH BASIN TYPE 1	WSDOT
B10.20-02_e	CATCH BASIN TYPE 2	WSDOT
B30.10-03_e	RECTANGULAR FRAME (REVERSIBLE)	WSDOT
B30.20-04_e	RECTANGULAR SOLID METAL COVER	WSDOT
B30.30-03_e	RECTANGULAR VANED GRATE	WSDOT
B30.70-04_e	CIRCULAR FRAME (RING) AND COVER	WSDOT
C01b_e	BEAM GUARDRAIL POSTS AND BLOCKS	WSDOT
C07_e	BEAM GUARDRAIL END SECTIONS	WSDOT
C20.10-04_e	BEAM GUARDRAIL TYPE 31	WSDOT
C23.60-04_e	BEAM GUARDRAIL (TYPE 31) ANCHOR TYPE 10	WSDOT
F10.12-03_e	CEMENT CONCRETE CURBS	WSDOT
F30.10-03_e	CEMENT CONCRETE SIDEWALK	WSDOT
F40.15-03_e	PERPENDICULAR CURB RAMP	WSDOT
F40.16-03_e	SINGLE DIRECTION CURB RAMP	WSDOT
F45.10-02_e	DETECTABLE WARNING SURFACE	WSDOT
FS-2	CHAIN LINK FENCE WITH TOP RAIL	WSDOT
G30.10-04_e	SIGN INSTALLATION ON SIGNAL AND LIGHT STANDARDS	WSDOT
I10.10-01_e	HIGH VISIBILITY FENCE	WSDOT
I30.15-02_e	SILT FENCE	WSDOT
I30.17-00_e	HIGH VISIBILITY SILT FENCE	WSDOT
I40.20-00_e	STORM DRAIN INLET PROTECTION	WSDOT
J26.15-01_e	SIGNAL STANDARD FOUNDATION PLACEMENTS	WSDOT
J40.10-04_e	LOCKING LID STANDARD DUTY JUNCTiON BOX TYPES 1 AND 2	WSDOT
COR104.2	CEMENT CONCRETE DRIVEWAY ENTRANCES – NOTES AND DETAILS	City of Renton
COR104	CEMENT CONCRETE DRIVEWAY ENTRANCE - TYPES C1, C2, C3, and C-MAX	City of Renton
COR-109	CHANNELIZATION MARKERS DETAILS	City of Renton
COR-117.1	ARTERIAL STREET DECORATIVE ROADWAY LUMINAIRE POLE DETAILS	City of Renton
COR-117.3	LUMINAIRE ARM AND MOUNTING BRACKET DETAILS	City of Renton
COR-119	TYPICAL LIGHTING UNDERGROUND SYSTEM	City of Renton
COR-121	STREET LIGHT STANDARD DECAL NUMBERING SYSTEM	City of Renton
COR-122.2	SERVICE CAB W/ BBS ATTACHED FOR SIGNALIZED INTERSECTIONS	City of Renton
COR-125	TYPICAL CONCRETE PAD DETAILS	City of Renton
COR 126.1	CABINET FOUNDATION DETAILS	City of Renton
COR-126.2	CABINET FOUNDATION DETAILS	City of Renton

COR-127	THERMOPLASTIC/PAINTED CROSSWALK	City of Renton
COR-129	SIGN MOUNTING ON SINGLE METAL POST (ADOPTED)	City of Renton
COR 132.0	SIGN MOUNTING ON SIGNAL POLE MAST ARM (FIXED MOUNT)	City of Renton
COR-234.20	OVERFLOW STRUCTURE	City of Renton
COR-320.1	3/4" AND 1" WATER SERVICE	City of Renton
COR-320.3	2 AND 1 ½" WATER SERVICE LOCATED IN RIGHT OF WAY BEHIND SIDEWALK	City of Renton
COR-350.2	REDUCED PRESSURE BACKFLOW ASSEMBLY IN HOT BOX	City of Renton
COR-H007	PRECAST BLOCK TRAFFIC CURBS	City of Renton
COR-H008.2	PAVEMENT MARKING DETAILS	City of Renton
COR-H008	PAVEMENT MARKING DETAILS	City of Renton
COR-H009	PAVEMENT MARKINGS	City of Renton
Parks Job Sign	Lake to Sound Trail King County Parks and Recreation sign	King County





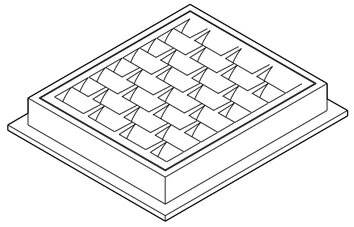


FINISH OPTIONS

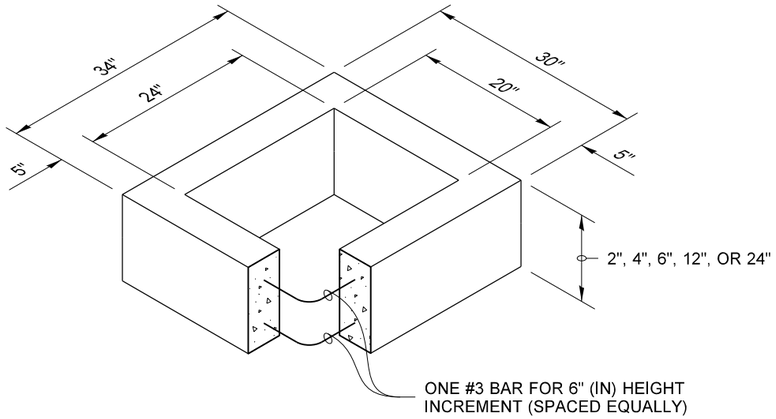
- ☐ MILL FINISH
- ☐ COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.

	BOLLARD	DATE DRAWN : 9/8/16 DRAWN BY : JSB DATE REV. : REV. BY :	REV. A	DRAWING NUMBER 69–776	SHEET 1 OF

DRAWN BY: LISA CYFORD



FRAME AND VANED GRATE

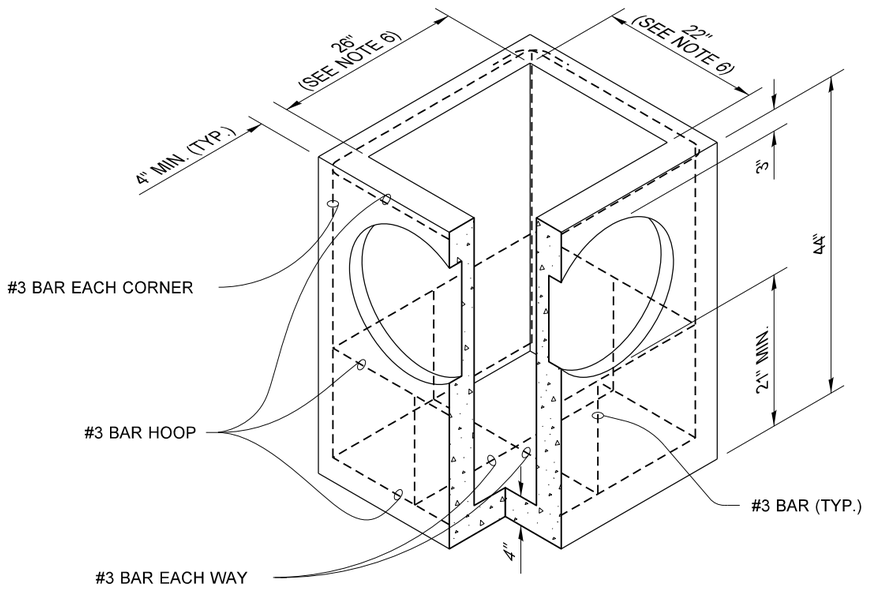


RECTANGULAR ADJUSTMENT SECTION

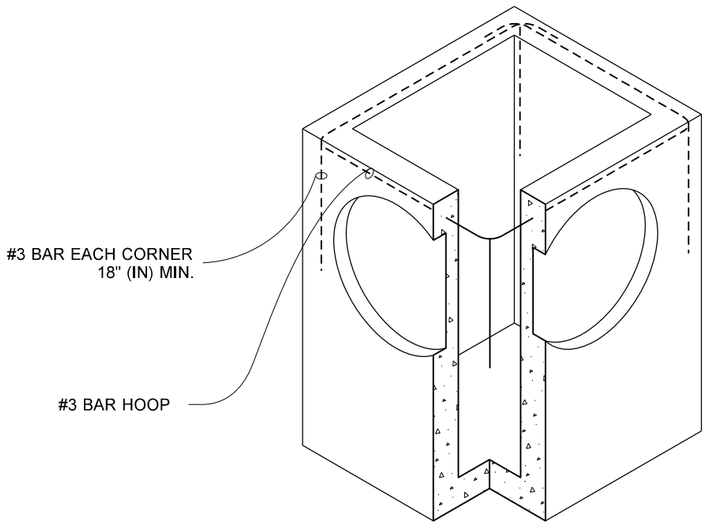
PIPE ALLOWANCES

PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * **(STD. SPEC. SECT. 9-05.20)**	12"
SOLID WALL PVC **(STD. SPEC. SECT. 9-05.12(1))**	15"
PROFILE WALL PVC **(STD. SPEC. SECT. 9-05.12(2))**	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE



PRECAST BASE SECTION



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE **PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.

2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.

3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).

4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.

5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.

6. The opening shall be measured at the top of the **Precast Base Section**.

7. All pickup holes shall be grouted full after the basin has been placed.

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CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-02

SHEET 1 OF 1 SHEET

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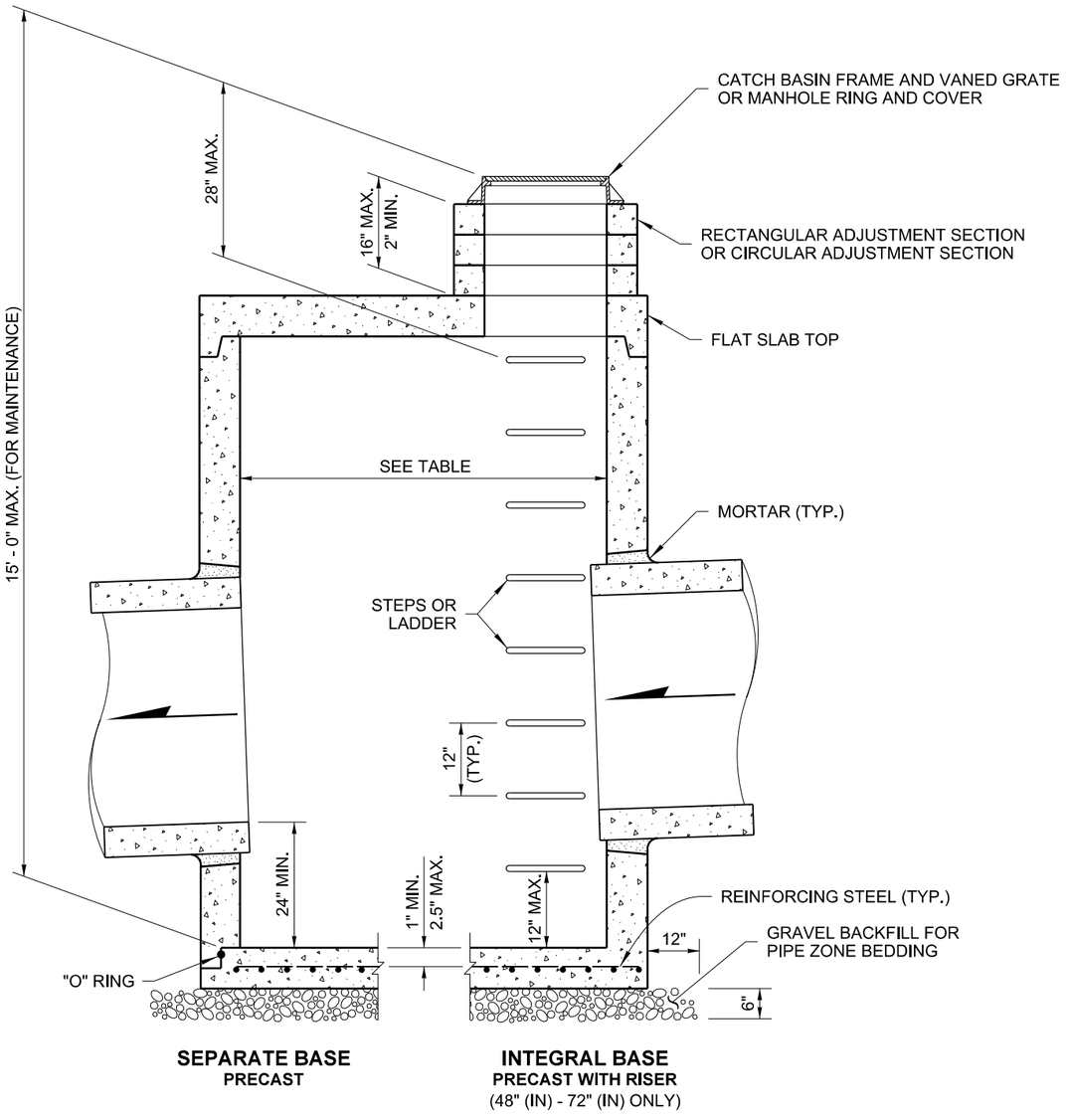

SEPARATE BASE
PRECAST

INTEGRAL BASE
PRECAST WITH RISER
(48" (IN) - 72" (IN) ONLY)

NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3.**

CATCH BASIN DIMENSIONS

CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ① PP ④	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe
(See **Standard Specification Section 9-05.20)**
② (See **Standard Specification Section 9-05.12(1))**
③ (See **Standard Specification Section 9-05.12(2))**
④ Polypropylene Pipe (See **Standard Specification Section 9-05.24)**

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Heilman, Julie
Feb 20 2018 12:49 PM
cosign

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-02

SHEET 1 OF 1 SHEET

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Carpenter, Jeff
Mar 2 2018 10:01 AM
cosign
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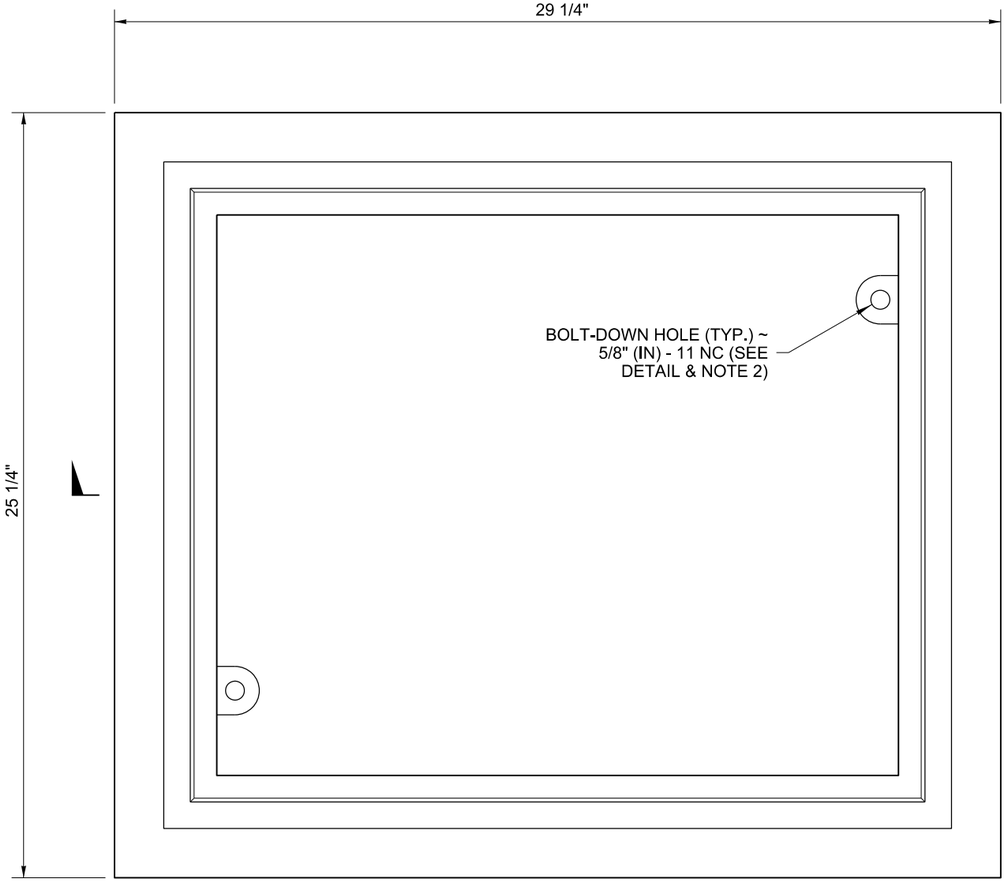
Washington State Department of Transportation



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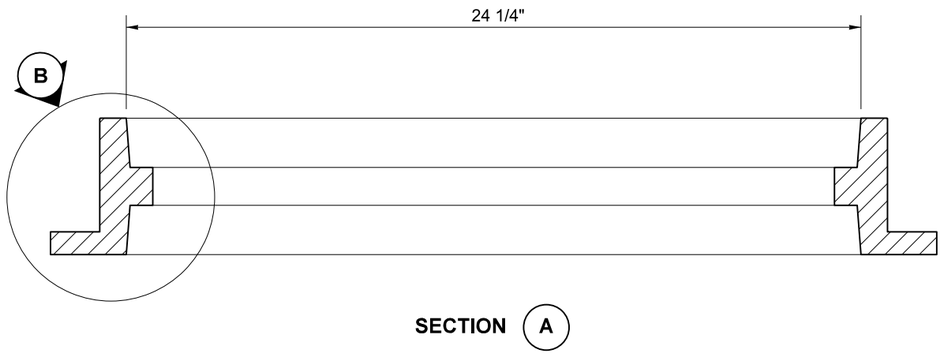
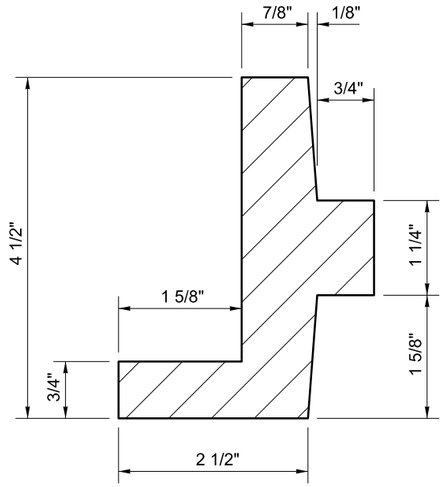


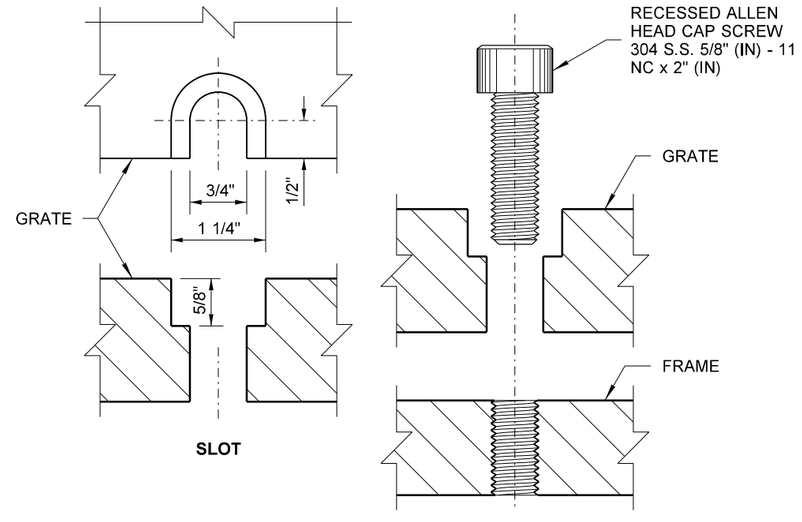
SECTION A



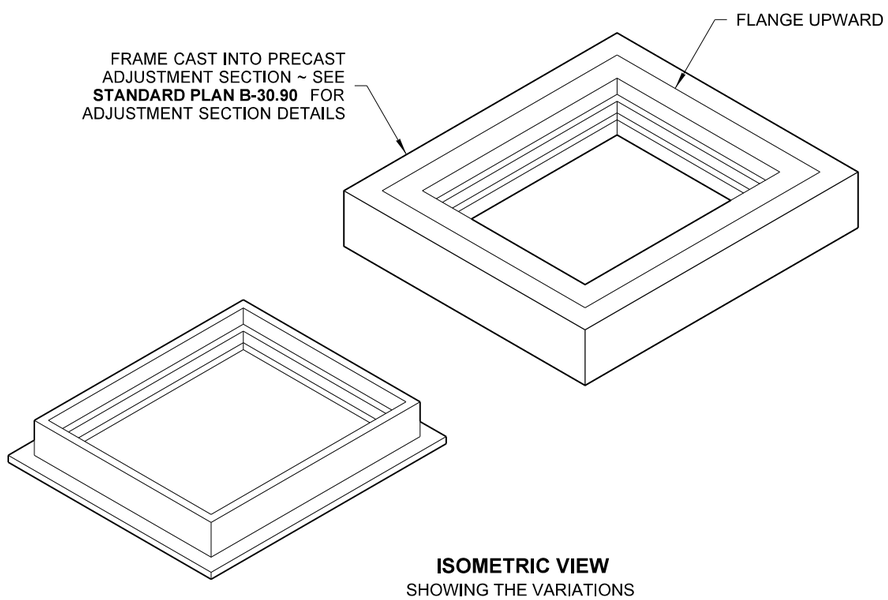
DETAIL B

NOTES

1. This frame is designed to accommodate 20" (in) × 24" (in) grates or covers as shown on **Standard Plans B-30.20, B-30.30, B-30.40,** and **B-30.50.**
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
3. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.



BOLT-DOWN DETAILS
SEE NOTE 2



ISOMETRIC VIEW
SHOWING THE VARIATIONS

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RECTANGULAR FRAME (REVERSIBLE)

STANDARD PLAN B-30.10-03

SHEET 1 OF 1 SHEET

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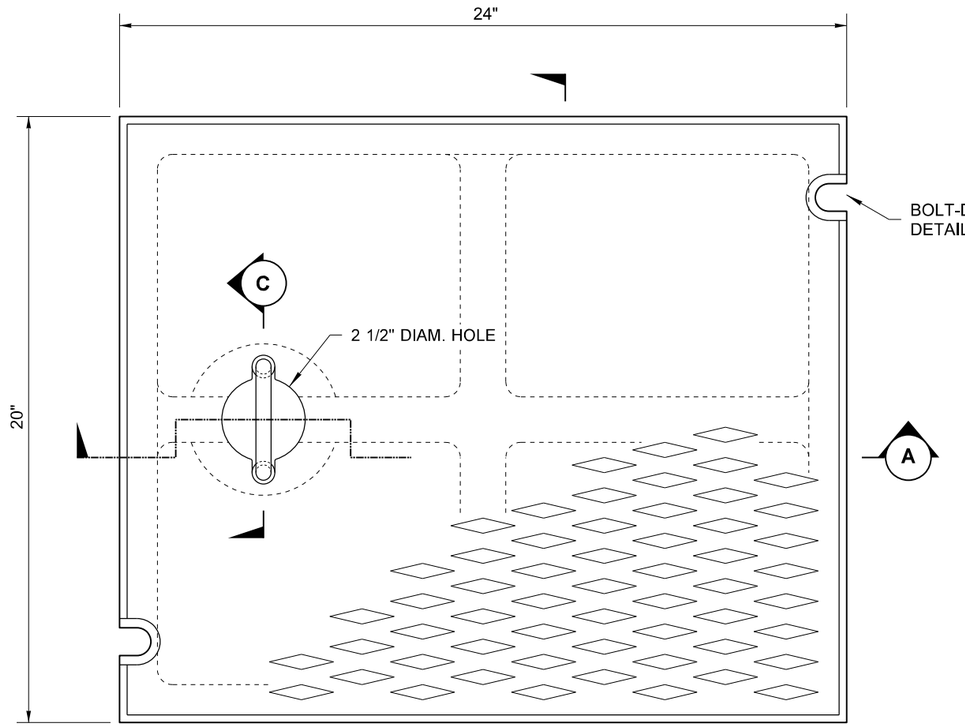

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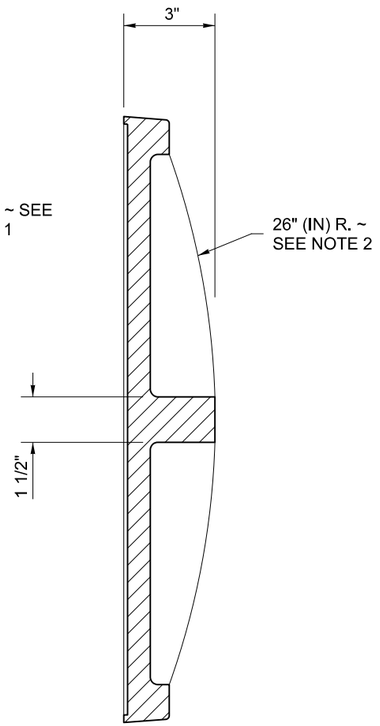
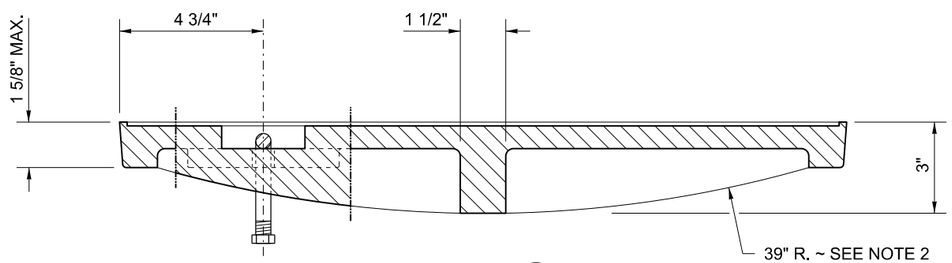
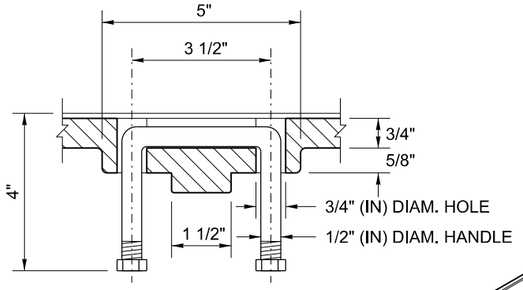


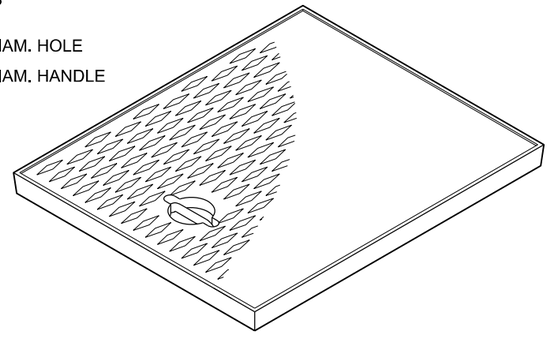
SECTION B



SECTION A



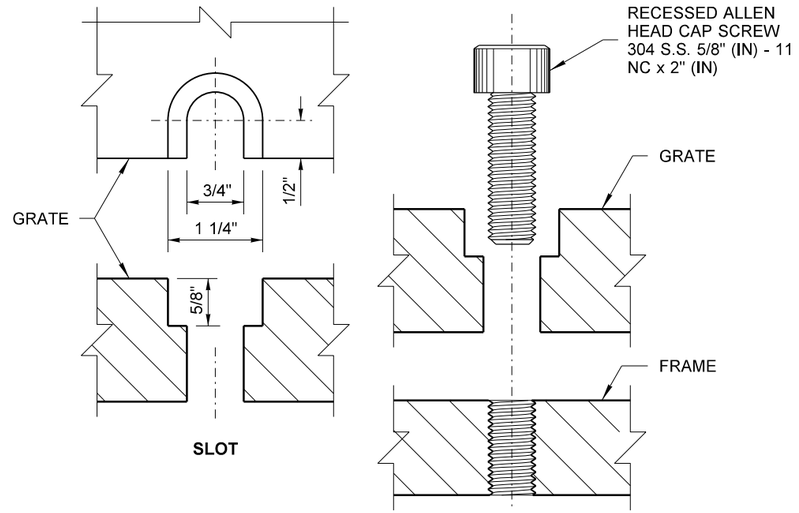
SECTION C



ISOMETRIC

NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Alternative reinforcing designs are acceptable in lieu of the rib design.
3. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
4. For frame details, see **Standard Plan B-30.10.**



BOLT-DOWN DETAILS
SEE NOTE 1

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RECTANGULAR SOLID METAL COVER

STANDARD PLAN B-30.20-04

SHEET 1 OF 1 SHEET

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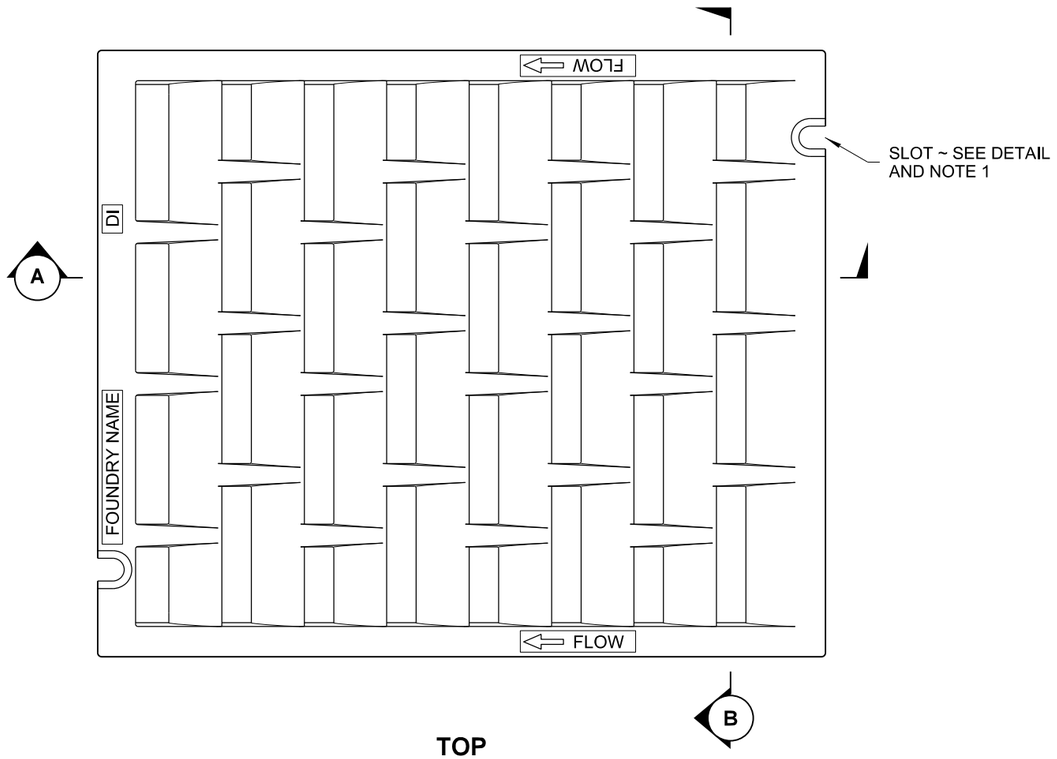

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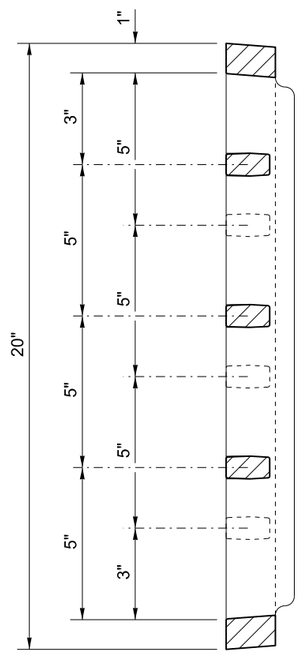
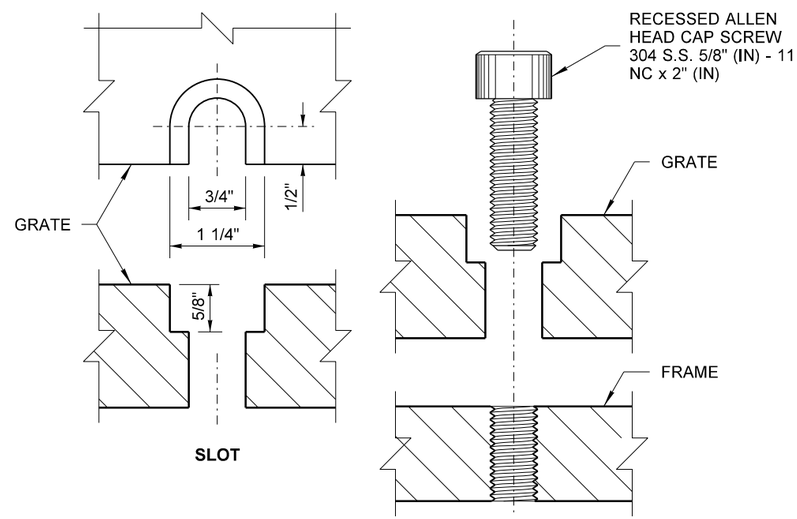


SECTION B

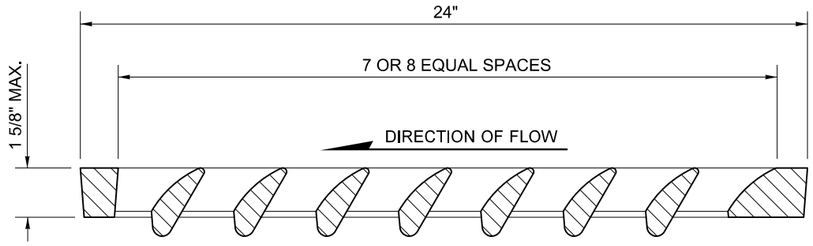
DRAWN BY: FERN LIDDELL

NOTES

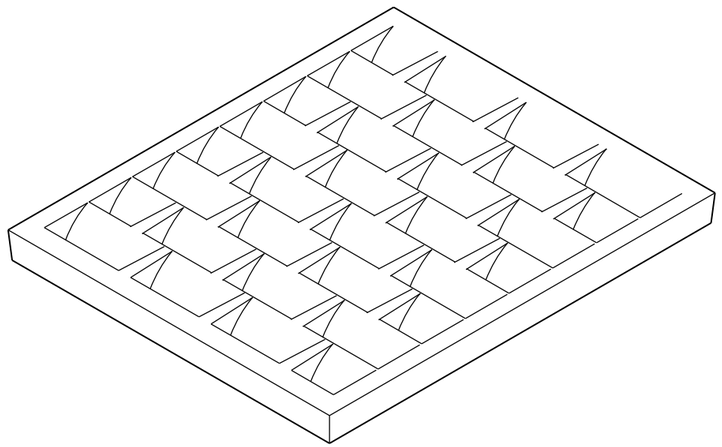
1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.



BOLT-DOWN DETAILS
SEE NOTE 1



SECTION A



ISOMETRIC

RECTANGULAR VANED GRATE

STANDARD PLAN B-30.30-03

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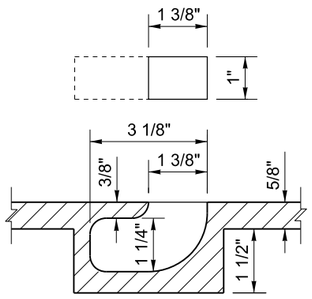
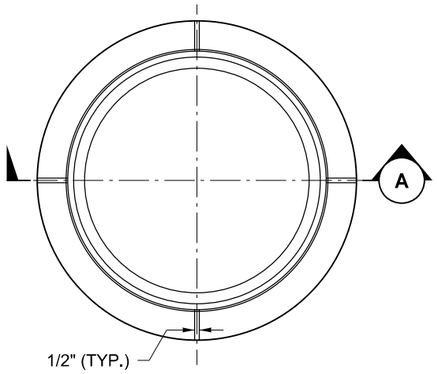
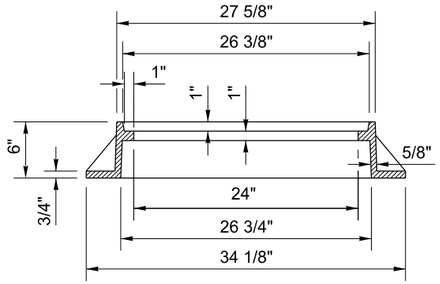


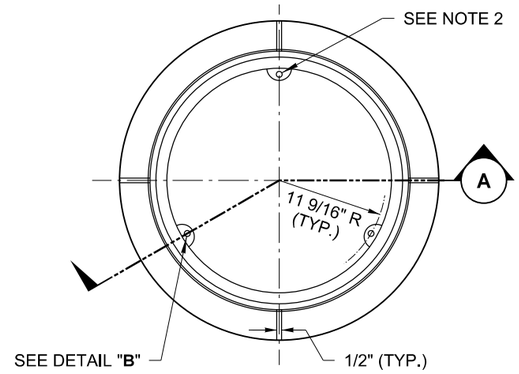
BLIND PICK NOTCH
DETAIL "A"



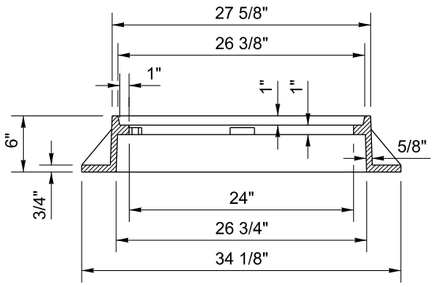
RING PLAN



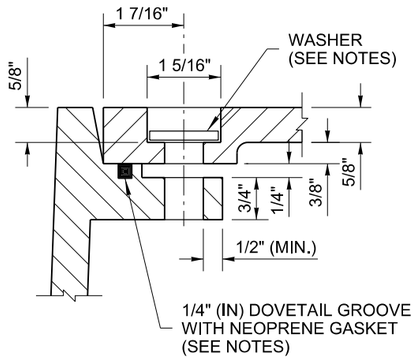
RING SECTION (A)



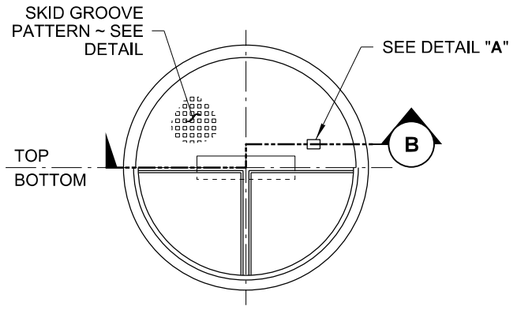
RING PLAN



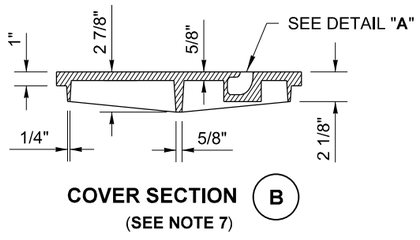
RING SECTION (A)



BOLT-DOWN / WATERTIGHT
DETAIL "B"

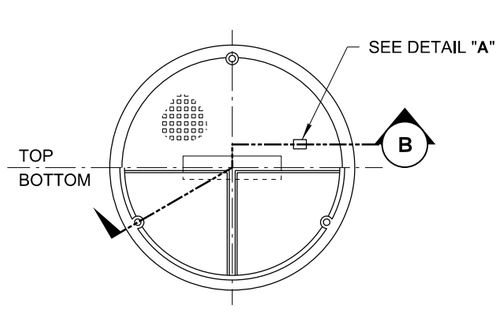


COVER PLAN

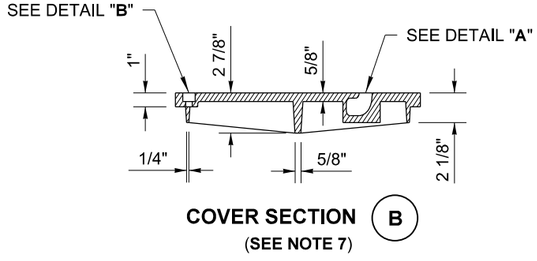


COVER SECTION (B)
(SEE NOTE 7)

STANDARD
TYPE 1



COVER PLAN

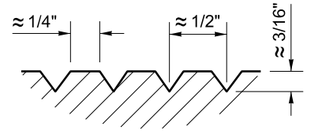


COVER SECTION (B)
(SEE NOTE 7)

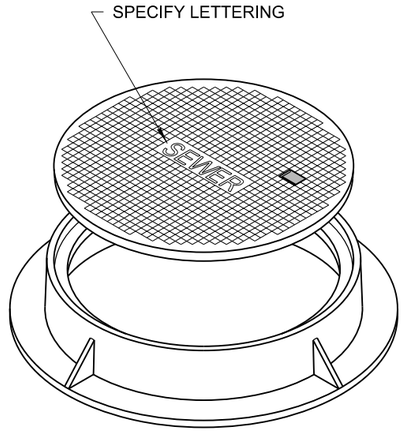
BOLT-DOWN / WATERTIGHT
TYPE 2

NOTES

1. The gasket and groove may be in the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S) 5/8" - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt down holes varies by manufacturer.
3. For bolt-down manhole ring and covers that are not designated "Watertight," the neoprene gasket, groove, and washer are not required.
4. Washer shall be neoprene (Detail "B").
5. In lieu of blind pick notch for manhole covers, a single 1" (in) pick hole is acceptable. Hole location and number of holes may vary by manufacturer.
6. Alternative reinforcing designs are acceptable in lieu of the rib design.
7. For clarity, the vertical scale of the Cover Section has been exaggerated, it is 1.5 times the horizontal scale (1H:1.5V).



SKID GROOVE PATTERN
DETAIL



ISOMETRIC VIEW

JULIE HEILMAN
STATE OF WASHINGTON
41819
REGISTERED
PROFESSIONAL ENGINEER

CIRCULAR FRAME (RING) AND COVER

STANDARD PLAN B-30.70-04

SHEET 1 OF 1 SHEET

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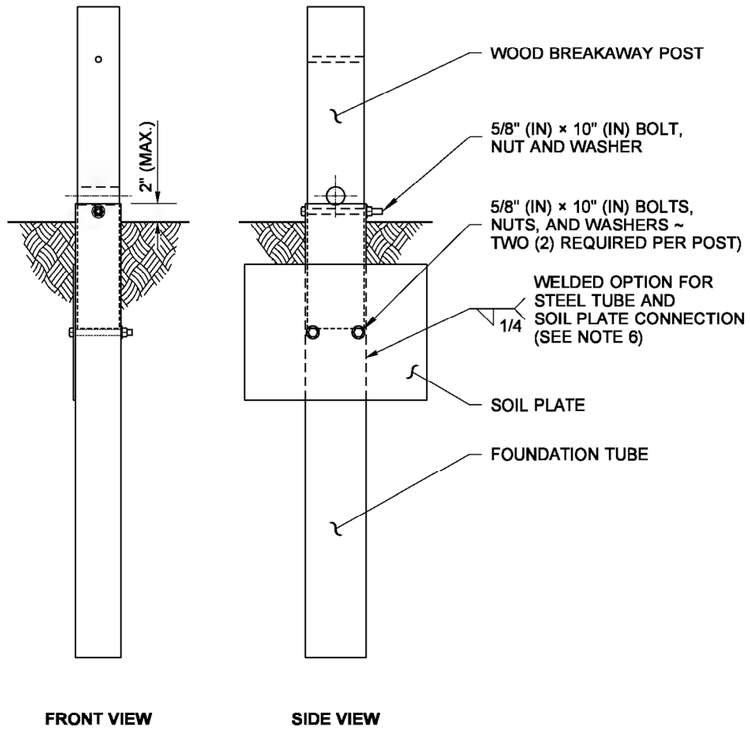
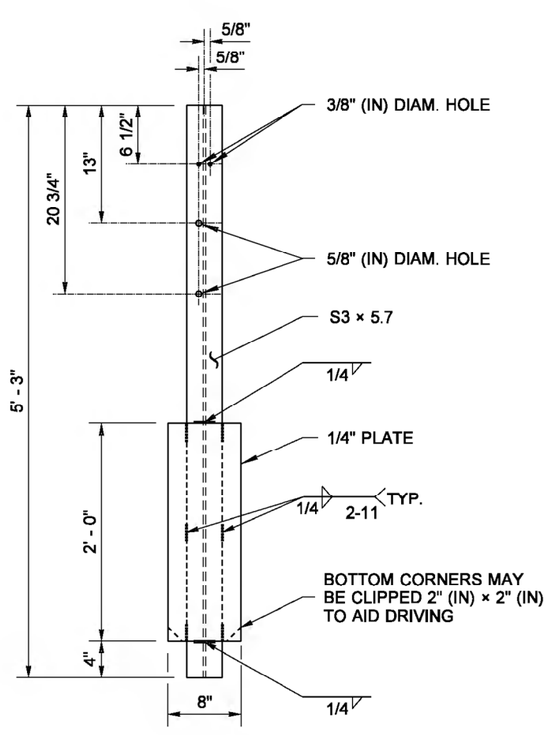


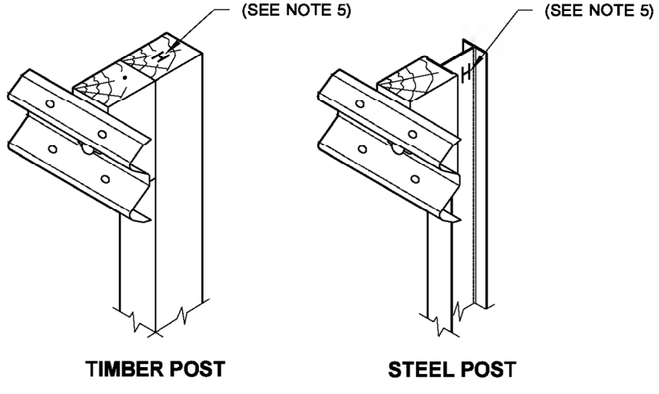
ANCHOR POST ASSEMBLY



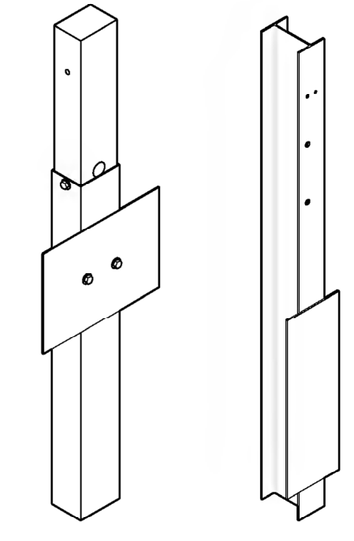
G-2 POST

NOTES

1. Wood posts for all guardrail placement plans shall be 6 × 8 except where noted otherwise.
2. Lower hole is for Rub Rail of Type 2 and Type 3 Beam Guardrail.
3. W6×8.5 or W6×9 steel posts and timber blocks are alternates for 6×8 timber posts and blocks. W6×15 steel posts and timber blocks are alternates for 10×10 timber posts and blocks.
4. Holes shall be located on approaching traffic side of web.
5. When "Beam Guardrail Type - _ _ Ft. Long Post" is specified in the Contract, the post length shall be stamped with numbers, 1 1/2" (in) min. high and 3/4" (in) wide at the location where the letter "H" is shown in the ASSEMBLY DETAIL. For wood post applications, the letter shall be stamped to a minimum depth of 1/4" (in). For steel post applications, the letter shall be legible after the post is galvanized. After post installation, it shall be the Contractor's responsibility to ensure the stamped numbers remain visible.
6. Soil plate may be welded to foundation tube. If so, holes in soil plate and foundation tube may be omitted.



PARTIAL ASSEMBLY DETAIL



ISOMETRIC

EDWARD PATRICK BARRY
STATE OF WASHINGTON
34363
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Barry, Ed
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BEAM GUARDRAIL POSTS AND BLOCKS

STANDARD PLAN C-1b

SHEET 1 OF 2 SHEETS

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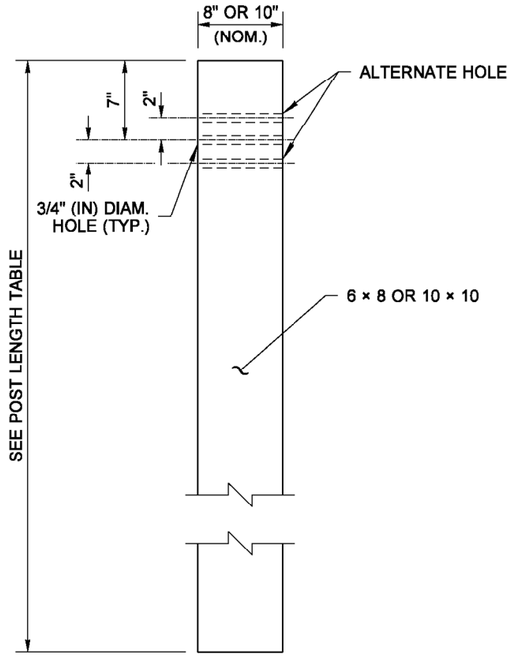
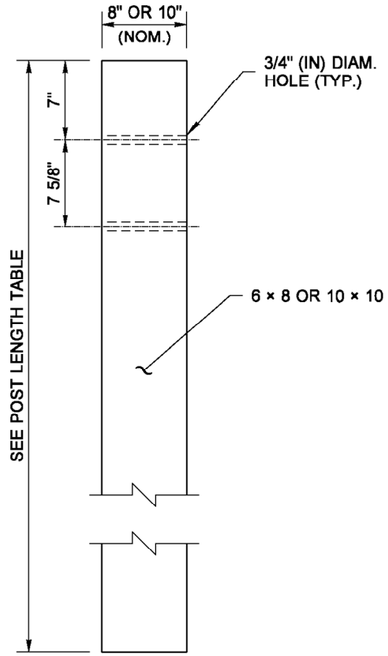
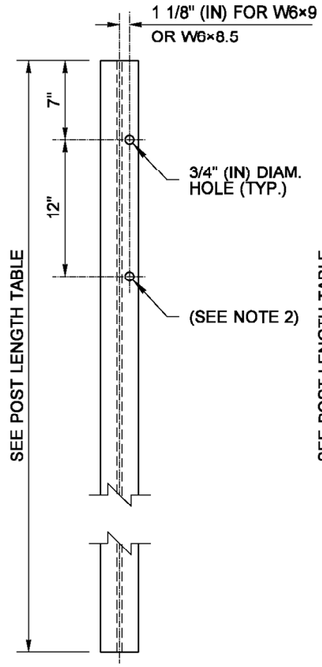


W-BEAM

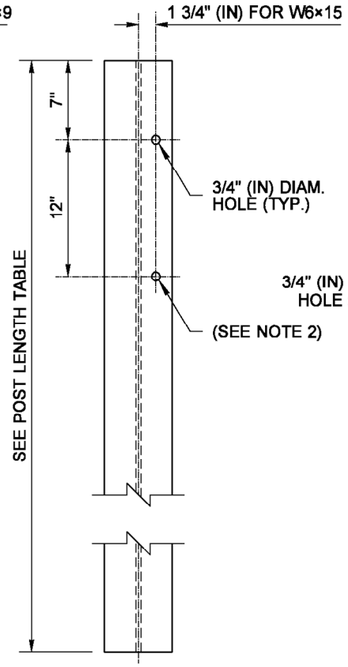


THRIE BEAM

WOOD POST

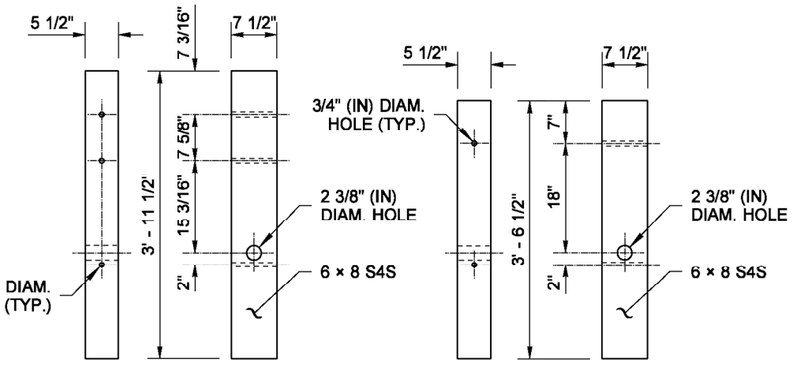


W-BEAM



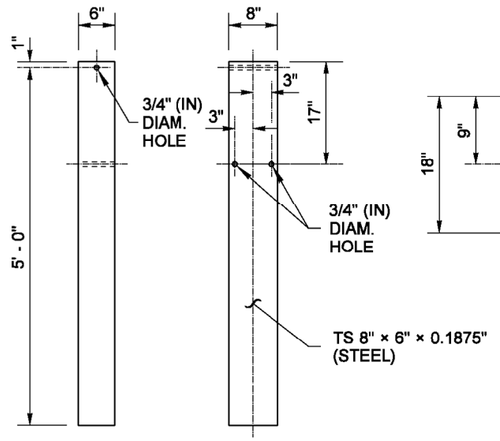
THRIE BEAM

STEEL POST
(SEE NOTES 3 AND 4)

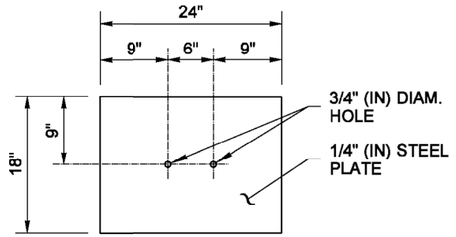


THRIE BEAM W-BEAM

WOOD BREAKAWAY POST

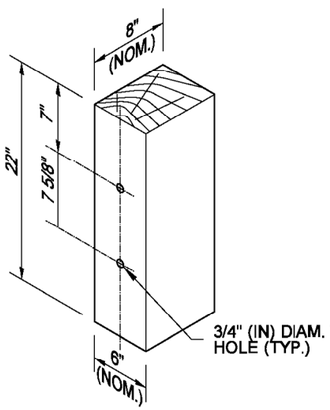


FOUNDATION TUBE

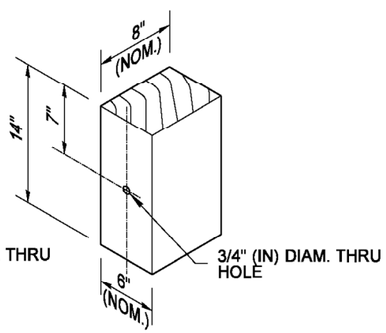


SOIL PLATE

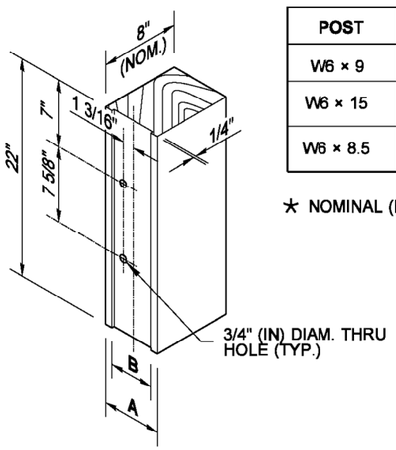
POST LENGTH TABLE	
GUARDRAIL TYPE	LENGTH
1 through 4 & 31	6' - 0"
10 or 11	6' - 6"



THRIE BEAM WOOD BLOCK FOR WOOD POST



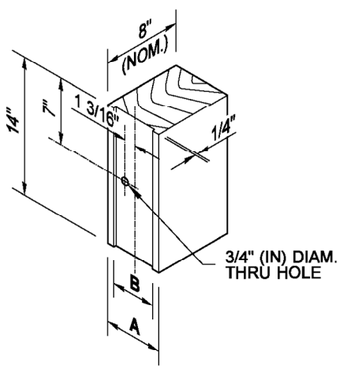
W-BEAM WOOD BLOCK FOR WOOD POST



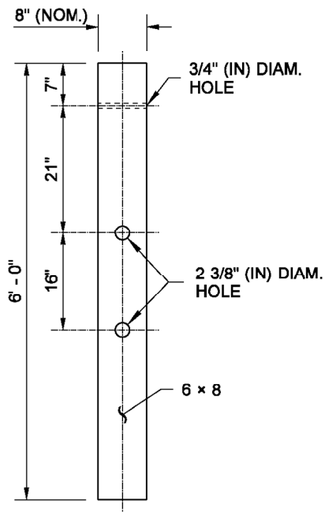
POST	A	B
W6 × 9	6"★	4 1/4"
W6 × 15	8"★	6 1/4"
W6 × 8.5	8"★	6 1/4"

★ NOMINAL (NOM.)

THRIE BEAM WOOD BLOCK FOR STEEL POST



W-BEAM WOOD BLOCK FOR STEEL POST



CONTROLLED RELEASING TERMINAL (CRT) POST

DRAWN BY: FERN LIDDELL

PATRICK EDWARD BARRY
STATE OF WASHINGTON
34363
REGISTERED
PROFESSIONAL ENGINEER

Barry, Ed
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BEAM GUARDRAIL POSTS AND BLOCKS

STANDARD PLAN C-1b

SHEET 2 OF 2 SHEETS

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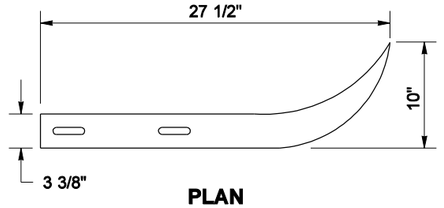
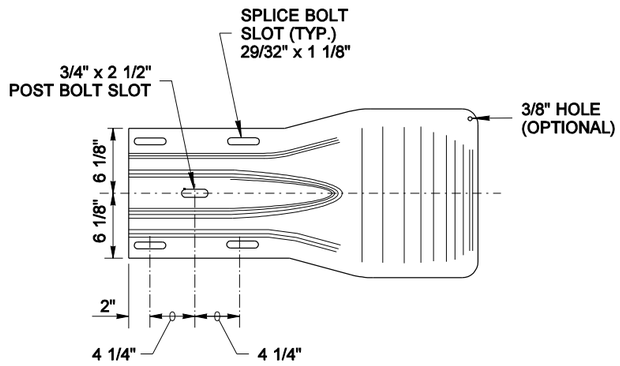
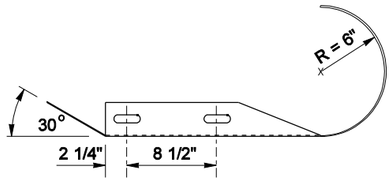


PLAN



ELEVATION

DESIGN A



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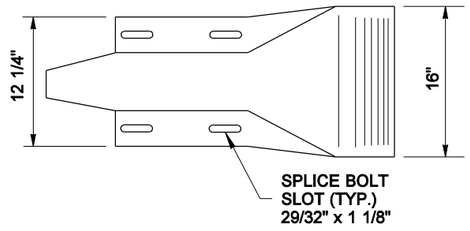
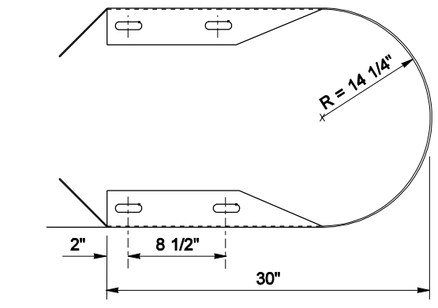
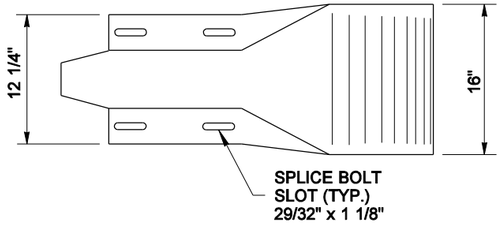


ELEVATION

DESIGN C

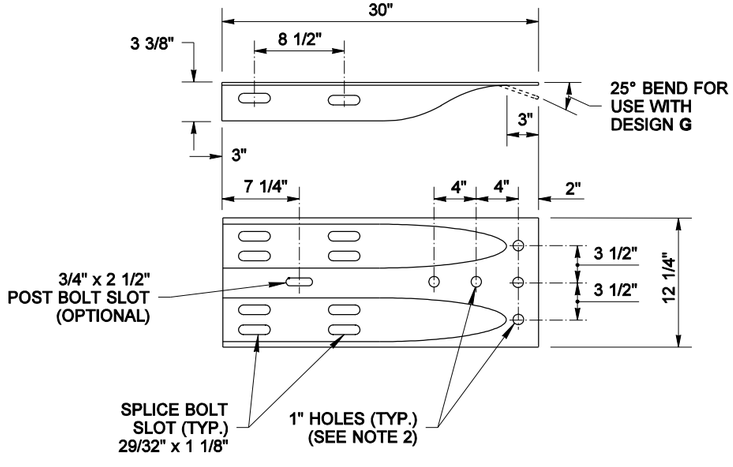


PLAN



ELEVATION

DESIGN D



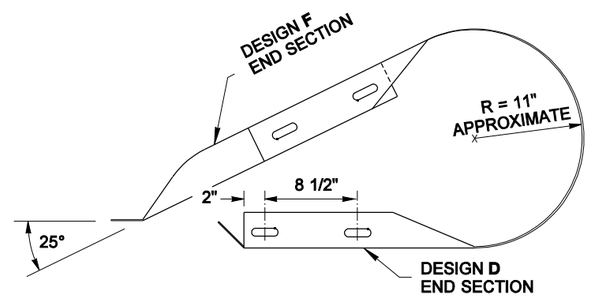
ELEVATION

DESIGN F

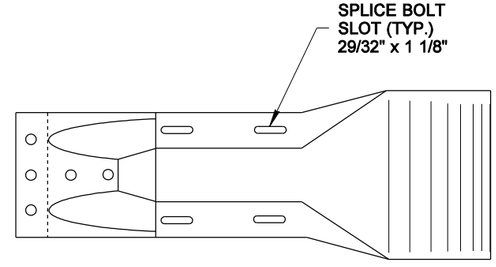
(SEE NOTE 4)

NOTES

1. End Section Design G shall be used except where noted on the plans or contract.
2. Attach guardrail to bridge rail or concrete barrier with 7/8" diameter bolts (five minimum) **Standard Spec. 9-06.5(4),** with thin slab ferrule inserts or resin bonded anchors. See the Contract Plans.
3. A single piece having similar dimensional shape to Design G and mating with the W-beam guardrail is an alternate.
4. In cases where Design "F" end section is lapped on the outside of the guardrail, a galvanized 1" ID, 2" OD, 0.134" thick, narrow Type A Plain Washer or a anchor rail washer shall be placed under the splice bolt heads.



PLAN



ELEVATION

DESIGN G

(SEE NOTE 3)

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

BEAM GUARDRAIL END SECTIONS

STANDARD PLAN C-7

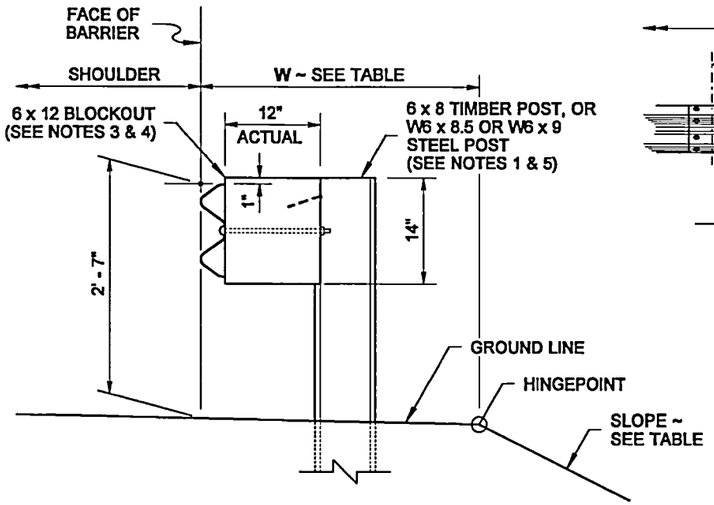
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

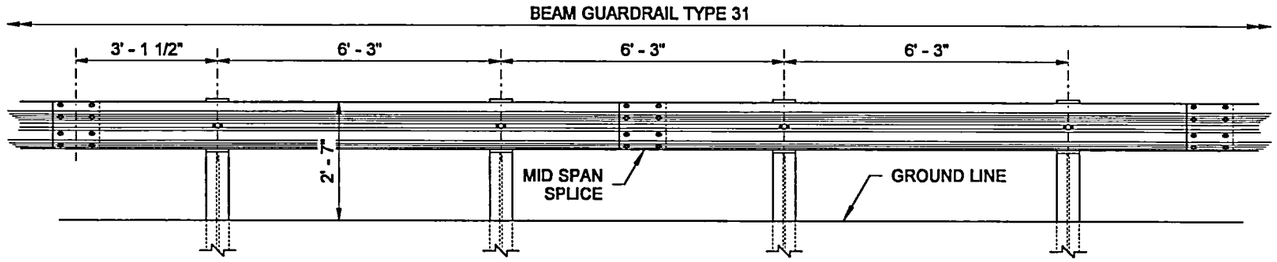
Pasco Bakotich III — STATE DESIGN ENGINEER

06-16-11 — DATE

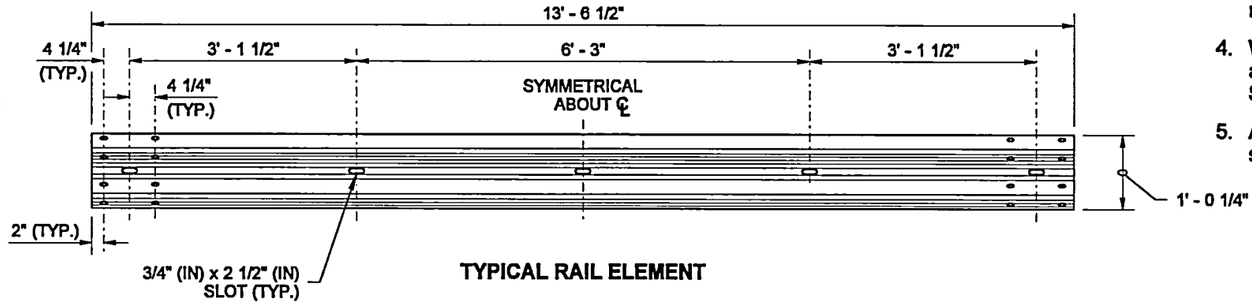
Washington State Department of Transportation



TYPICAL SECTION ~ WITHOUT CURB
(6' - 0" LONG POSTS)



TYPICAL ELEVATION

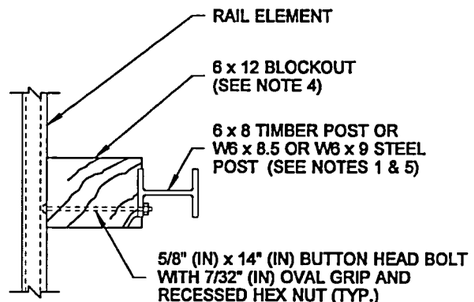


TYPICAL RAIL ELEMENT

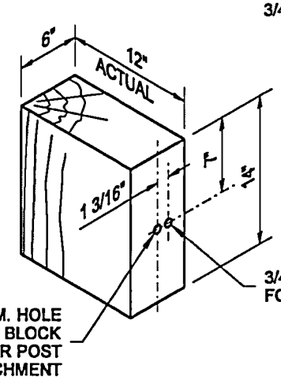
NOTES

1. Refer to **Standard Plan C-1b** and **C-20.11** for additional details not shown on this plan.
2. Extend shoulder pavement to provide a base for the extruded curb. See Contract Plans for exceptions to distances shown.
3. Use a single block or combination of blocks (no more than two (2) to achieve the actual 12" (in) offset. See **Standard Specification Section 9-16.3(2)**. Wood blocks shall be secured to the posts with anti-rotation nails. If combination blocks are used, the adjacent blocks shall be toenailed with two 16d galvanized nails to prevent block rotation.
4. Wood blocks are shown. Blocks of an approved alternative material may be used. See **Standard Specification Section 9-16.3(2).**
5. All posts for any standard barrier run shall be of the same type: timber or steel.

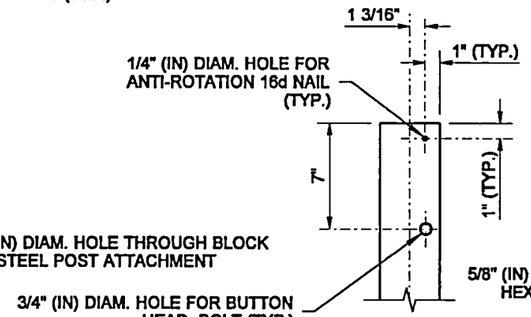
SLOPE \ EMBANKMENT TABLE	
SLOPE	W (FT)
2H : 1V OR FLATTER	2.5' MIN.
STEEPER THAN 2H : 1V BUT NOT STEEPER THAN 1H : 1V	4.0' MIN.



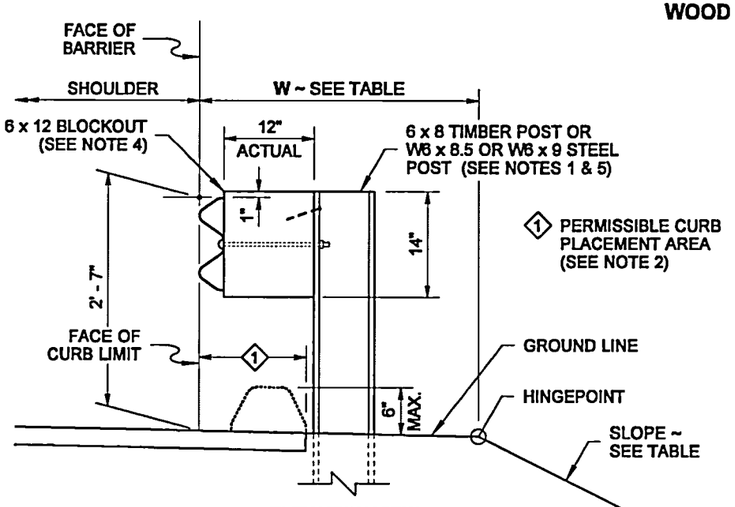
PLAN VIEW



WOOD BLOCK

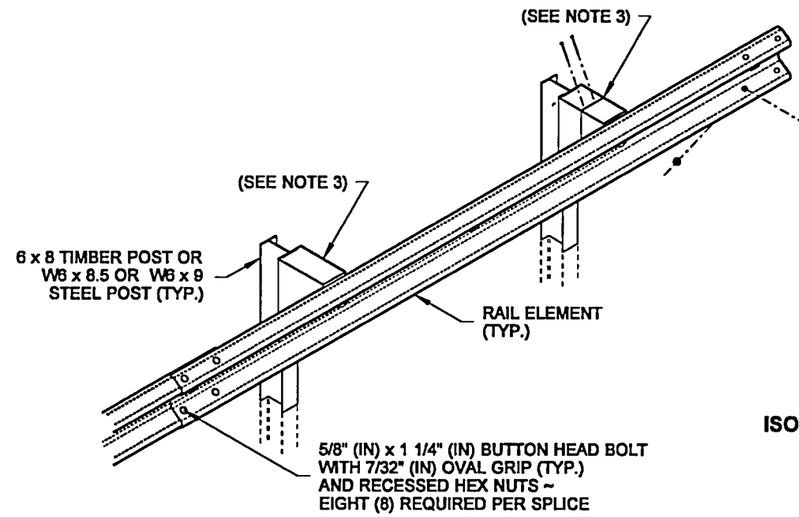


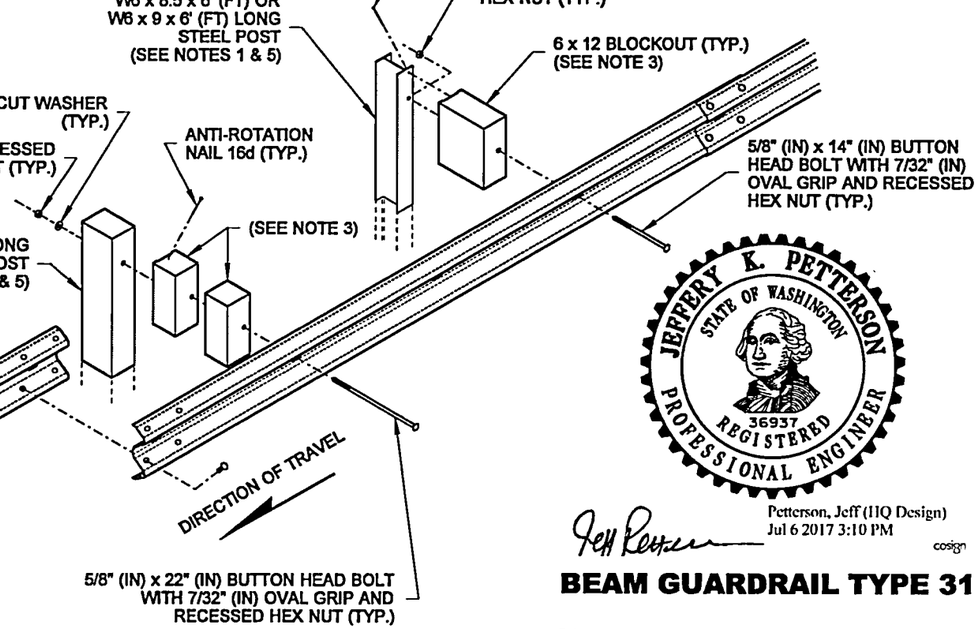
STEEL POST



ELEVATION VIEW

TYPICAL SECTION ~ WITH CURB
(6' - 0" LONG POSTS)





ISOMETRIC VIEW

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JEFFREY K. PETTERSON — STATE OF WASHINGTON — 36937 — REGISTERED PROFESSIONAL ENGINEER

Petterson, Jeff (HQ Design)
Jul 6 2017 3:10 PM

BEAM GUARDRAIL TYPE 31

STANDARD PLAN C-20.10-04

SHEET 1 OF 1 SHEET

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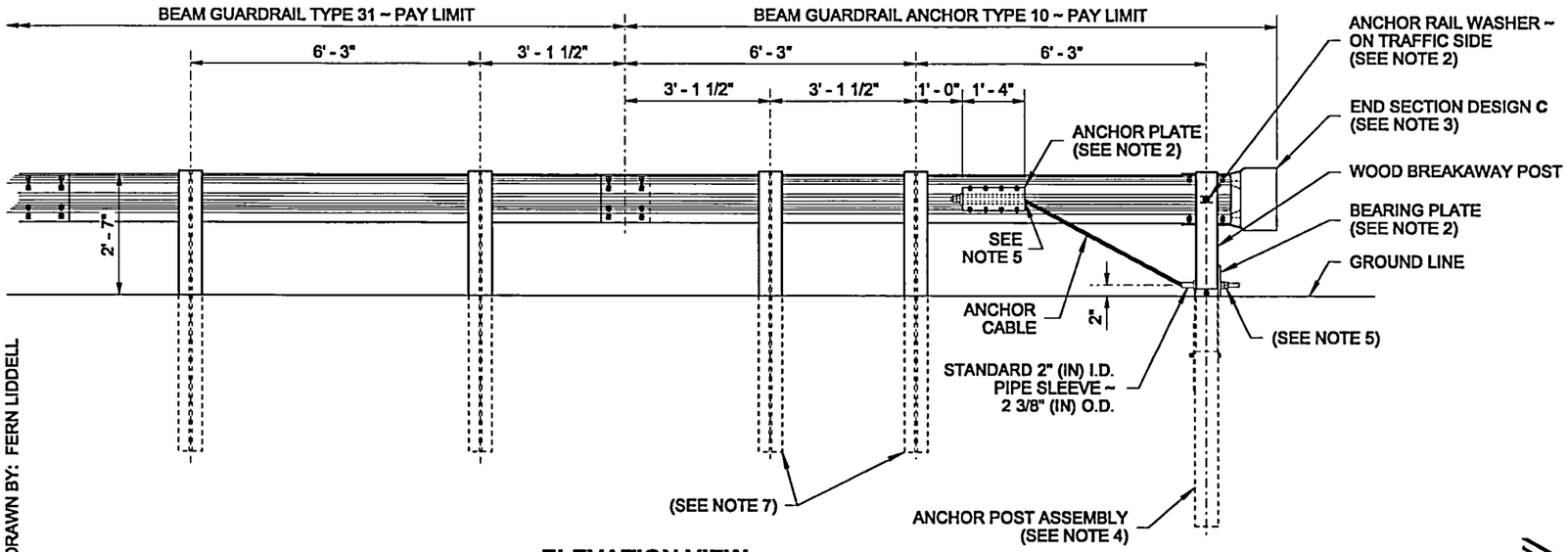

ELEVATION VIEW
W-BEAM

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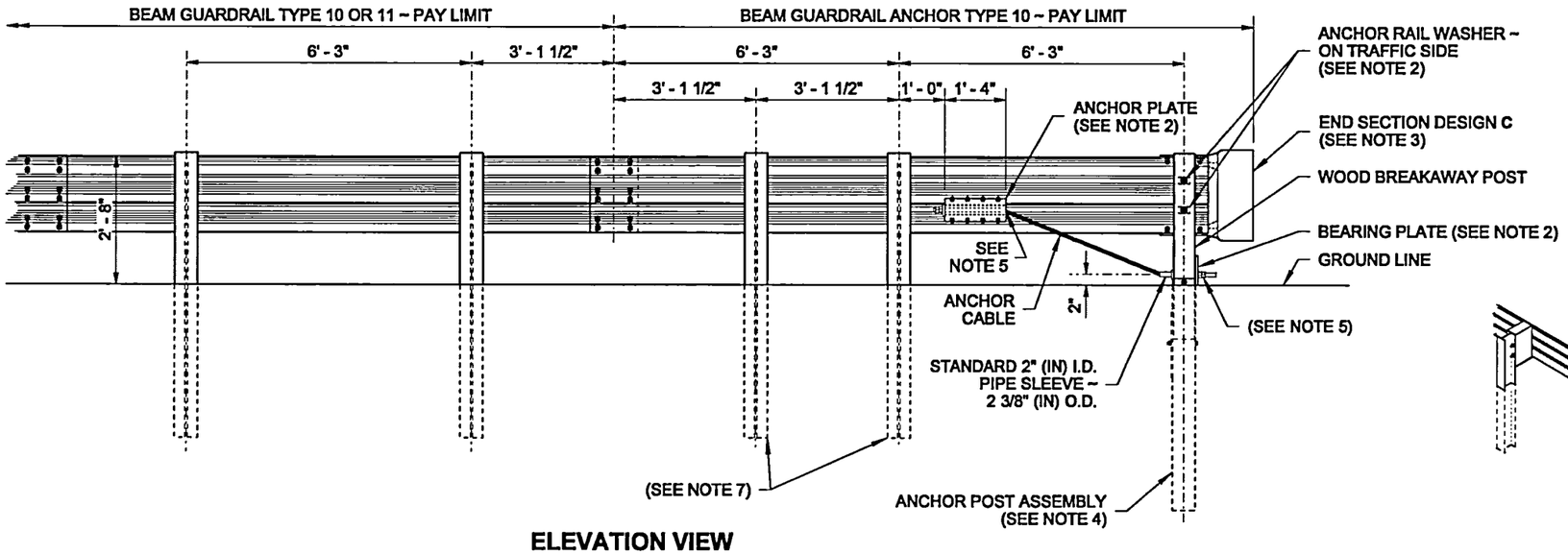
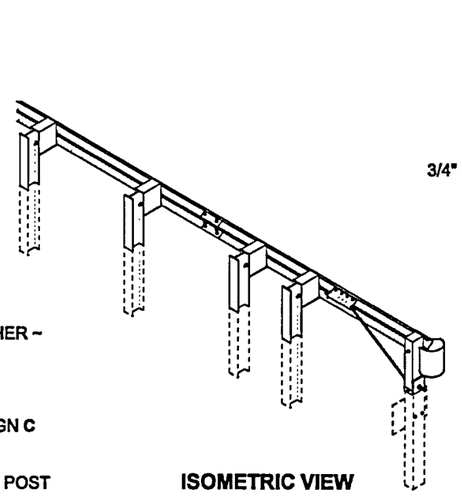


ELEVATION VIEW
THRIE BEAM

NOTES

1. For use on the end of guardrail runs when a crashworthy terminal is not required.
2. For additional details not shown, see **Sheet 2** of this Plan.
3. For end section details, see **Standard Plans C-7** and **C-7a**.
4. Use details for Wood Breakaway post shown on this plan and components shown on **Standard Plan C-1b**.
5. Fasten the Anchor Cable using two 1" (in) nuts and washer, at both ends of cable. Outside nut shall be torqued against inside nut a minimum of 100 ft.-lbs.
6. Wood blocks shown. Blocks of alternate material may be used. See **Standard Specification, Section 9-16.3(2)**.
7. Posts shall match those of the connecting run: timber or steel.
8. Anchor plate may be constructed from 1/4" (in) plates welded to equal strength and dimensions as shown.
9. Eight 5/8" (in) x 1/2" (in) machine bolts with hex nut and washer. Place washer on face side of rail.



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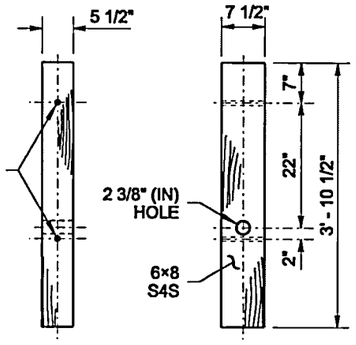
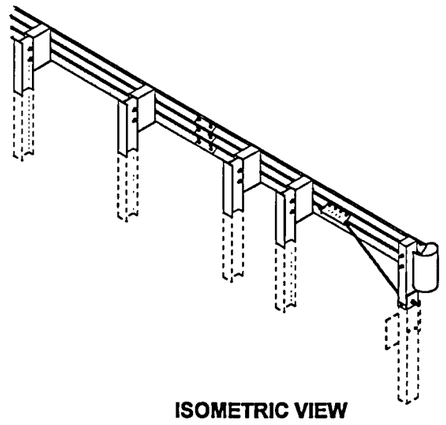


WOOD BREAKAWAY POST DETAIL



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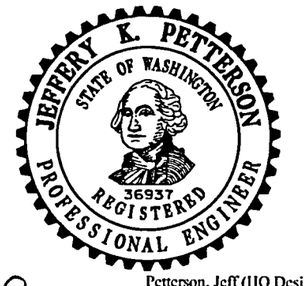

Petterson, Jeff (IIQ Design)
Jul 6 2017 3:15 PM

BEAM GUARDRAIL (TYPE 31) ANCHOR TYPE 10

STANDARD PLAN C-23.60-04

SHEET 1 OF 2 SHEETS

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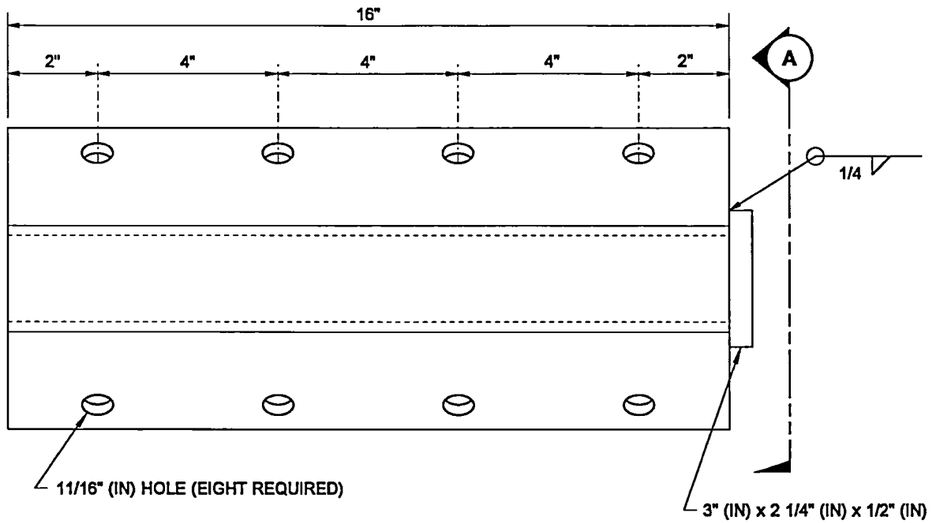
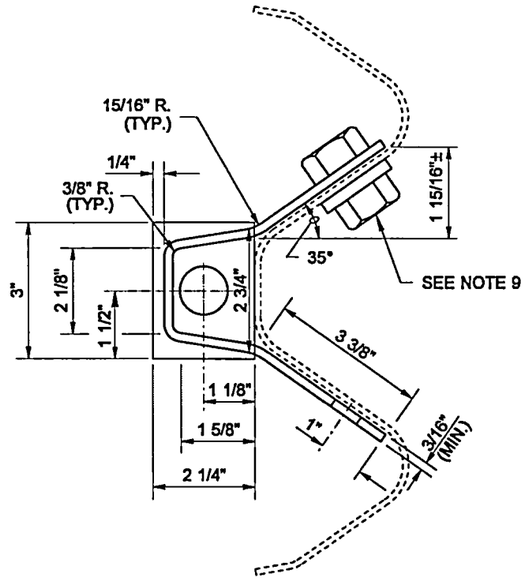
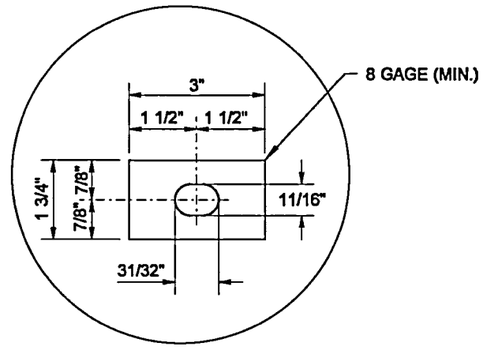


ELEVATION

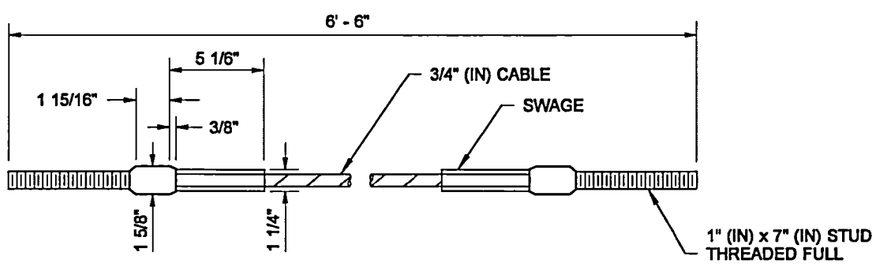
ANCHOR PLATE
(SEE NOTE 8)



SECTION (A)



ANCHOR RAIL WASHER



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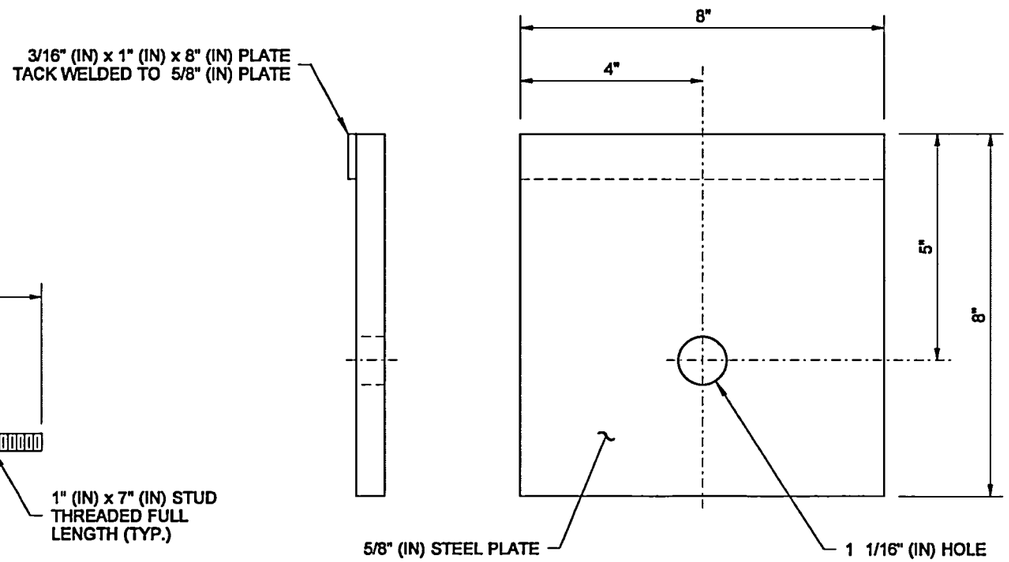


BEARING PLATE

JEFFERY K. PETTERSON
STATE OF WASHINGTON
36937
REGISTERED
PROFESSIONAL ENGINEER

Petterson, Jeff (HQ Design)
Jul 6 2017 3:15 PM

BEAM GUARDRAIL (TYPE 31)
ANCHOR TYPE 10

STANDARD PLAN C-23.60-04

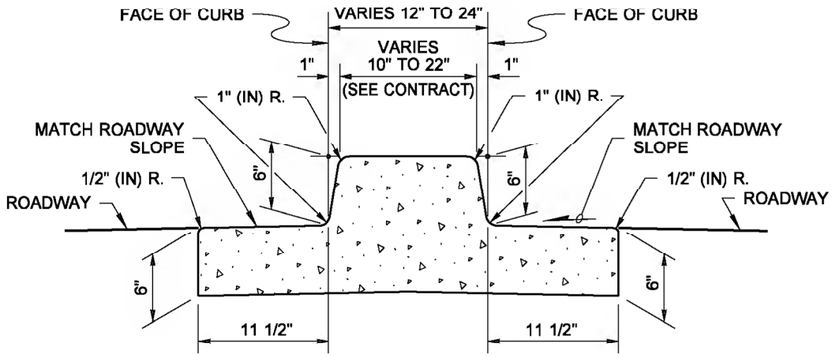
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

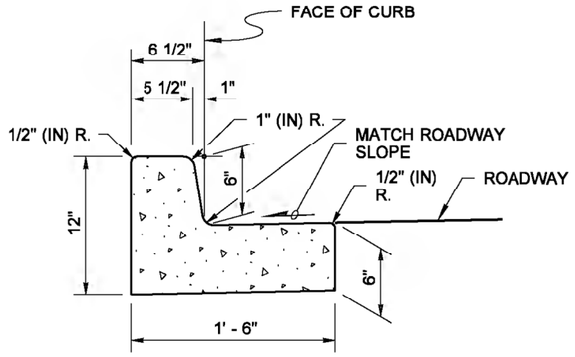
Carpenter, Jeff
Jul 21 2017 8:25 AM

STATE DESIGN ENGINEER

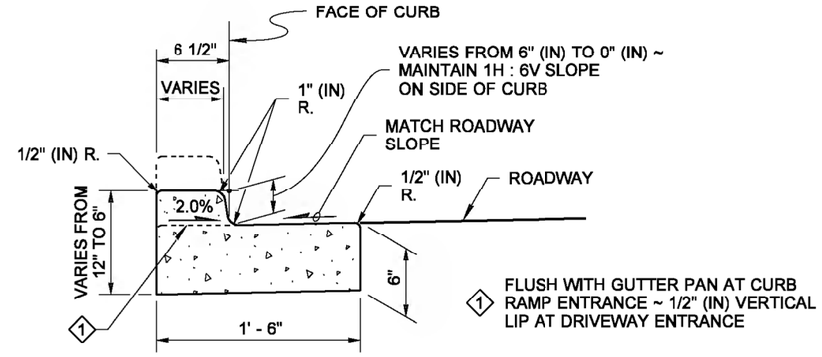
Washington State Department of Transportation



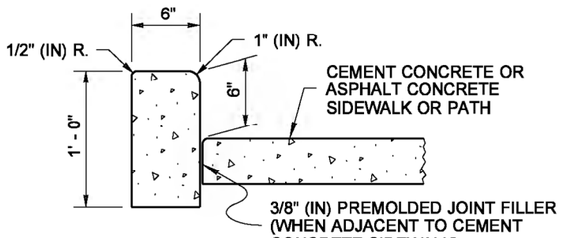
DUAL-FACED CEMENT CONCRETE TRAFFIC CURB AND GUTTER



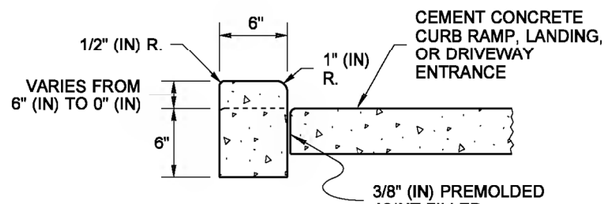
CEMENT CONCRETE TRAFFIC CURB AND GUTTER



DEPRESSED CURB SECTION
AT CURB RAMPS AND DRIVEWAY ENTRANCES



CEMENT CONCRETE PEDESTRIAN CURB

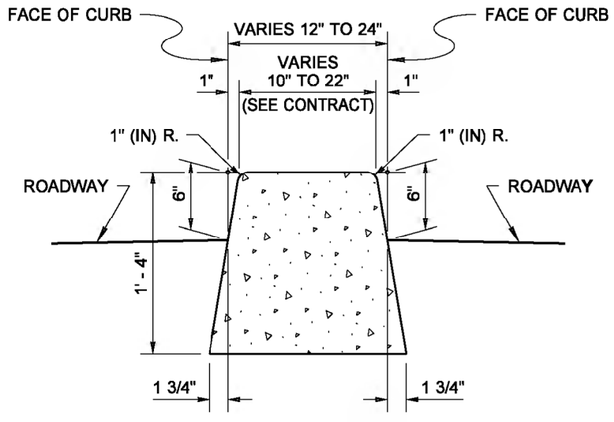


CEMENT CONCRETE PEDESTRIAN CURB
AT CURB RAMPS, LANDINGS, AND DRIVEWAY ENTRANCES

NOTE

1. See **Standard Plan F-30.10** for Curb Expansion and Contraction Joint spacing and see **Standard Specification Sections 8-04 and 9-04** for additional requirements.

DRAWN BY: FERN LIDDELL



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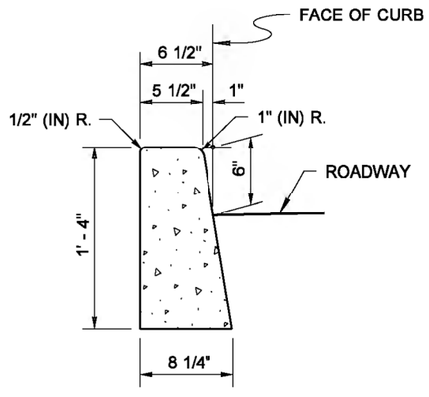
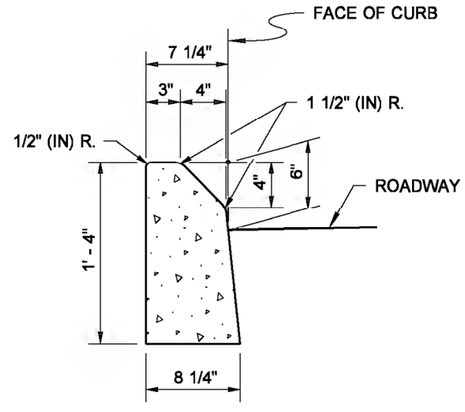


CEMENT CONCRETE TRAFFIC CURB



MOUNTABLE CEMENT CONCRETE TRAFFIC CURB

Barry, Ed
May 6 2014 3:31 PM

CEMENT CONCRETE CURBS

STANDARD PLAN F-10.12-03

SHEET 1 OF 1 SHEET

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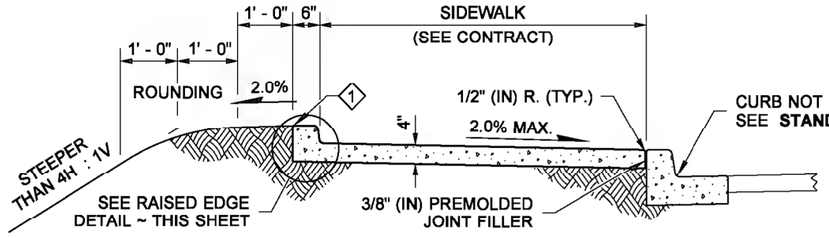
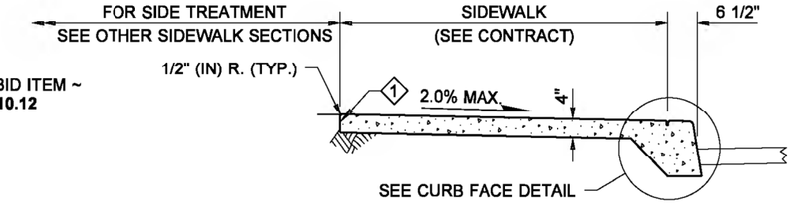
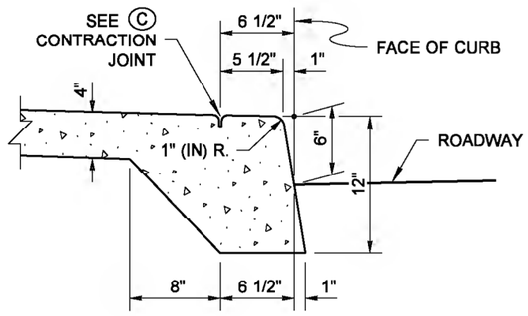
Bakotich, Pasco
Jun 11 2014 1:25 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation



WITH RAISED EDGE



MONOLITHIC CEMENT CONCRETE CURB AND SIDEWALK



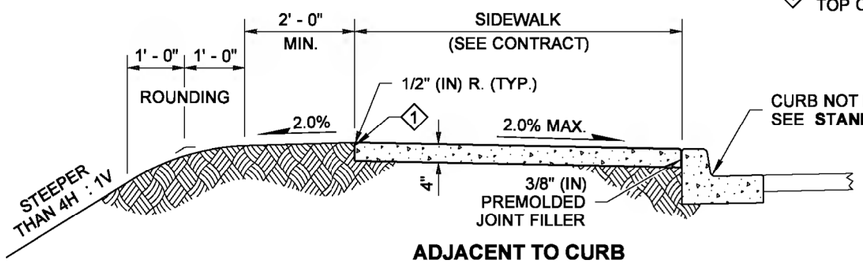
CURB FACE DETAIL

EXTEND SIDEWALK TRANSVERSE EXPANSION JOINTS TO INCLUDE CURB (FULL DEPTH)

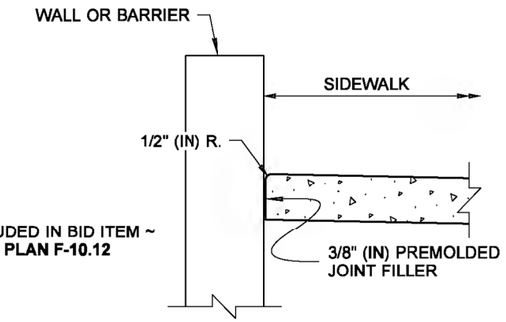
1 FINISHED GRADE 1" (IN) BELOW TOP OF CONCRETE SURFACE

NOTE

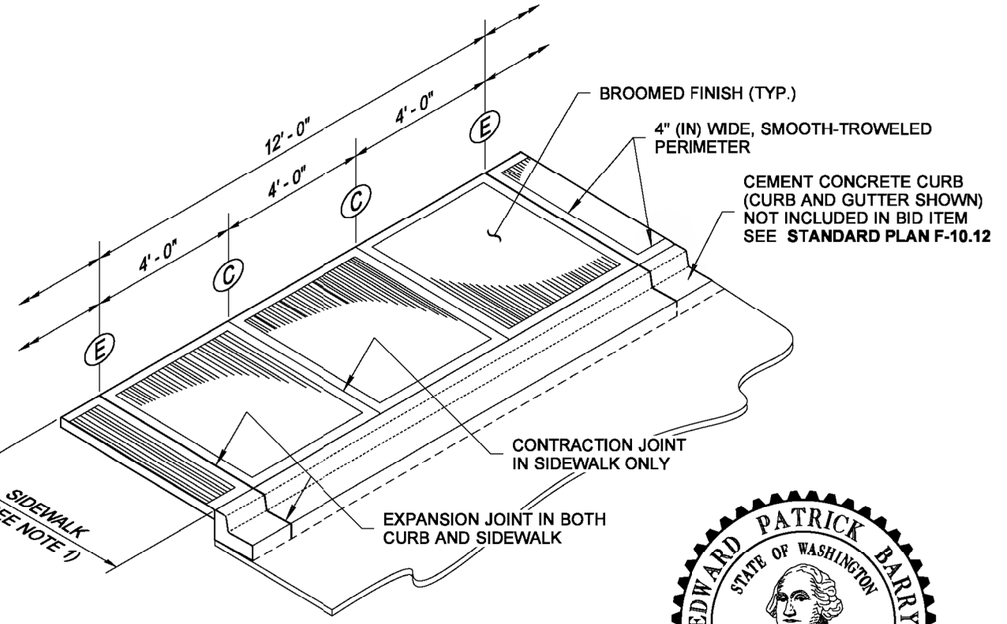
1. Four feet of the sidewalk width shall be the minimum pedestrian accessible route free of vertical and horizontal obstructions. Gratings, Access Covers, Junction Boxes, Cable Vaults, Pull Boxes and other appurtenances within the sidewalk must have slip resistant surfaces, be flush with surface, and match grade of the sidewalk.



ADJACENT TO CURB
(STEEP FILL SLOPES)

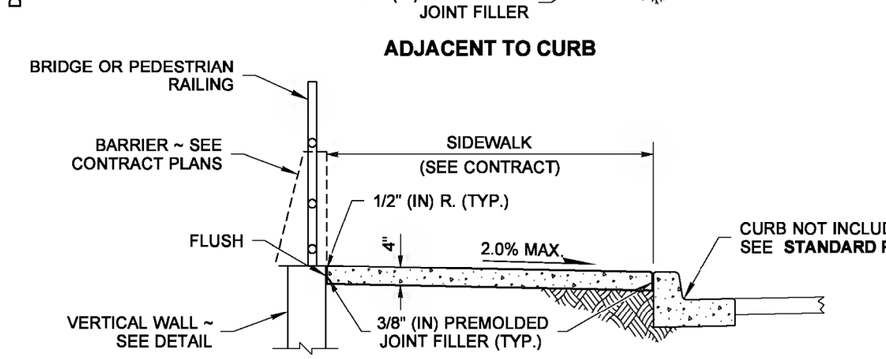


SIDEWALK ADJACENT TO WALL DETAIL



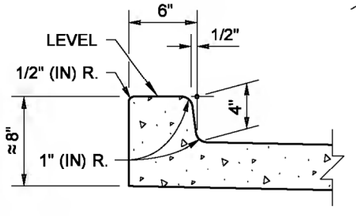
ISOMETRIC VIEW

JOINT AND FINISH DETAIL



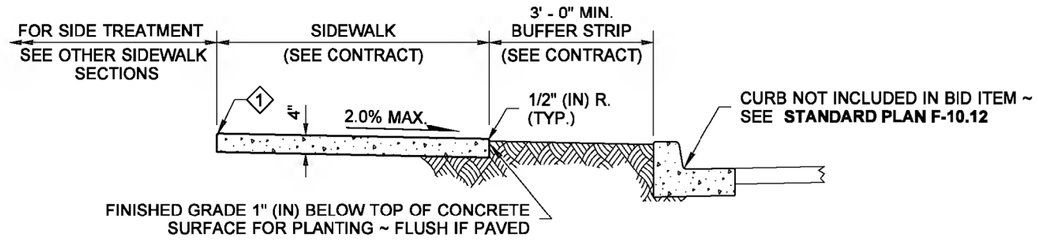
ADJACENT TO CURB

ADJACENT TO CURB AND RAILING OR WALL

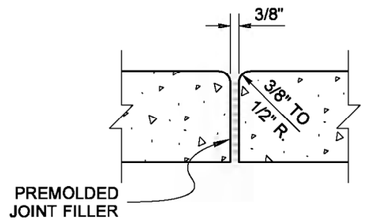


RAISED EDGE DETAIL

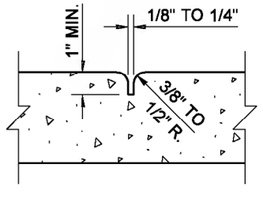
EXTEND SIDEWALK TRANSVERSE JOINTS TO INCLUDE RAISED EDGE



ADJACENT TO BUFFER STRIP



E EXPANSION JOINT



C CONTRACTION JOINT

Barry, Ed
May 6 2014 3:41 PM

CEMENT CONCRETE SIDEWALK

STANDARD PLAN F-30.10-03

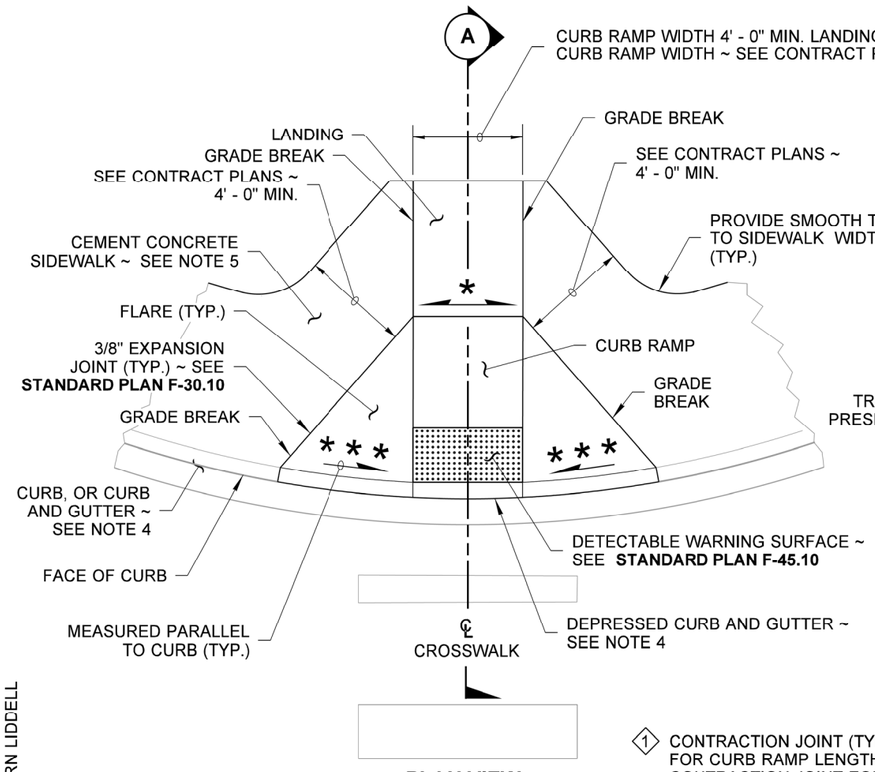
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Bakotich, Pasco
Jun 11 2014 1:25 PM

STATE DESIGN ENGINEER

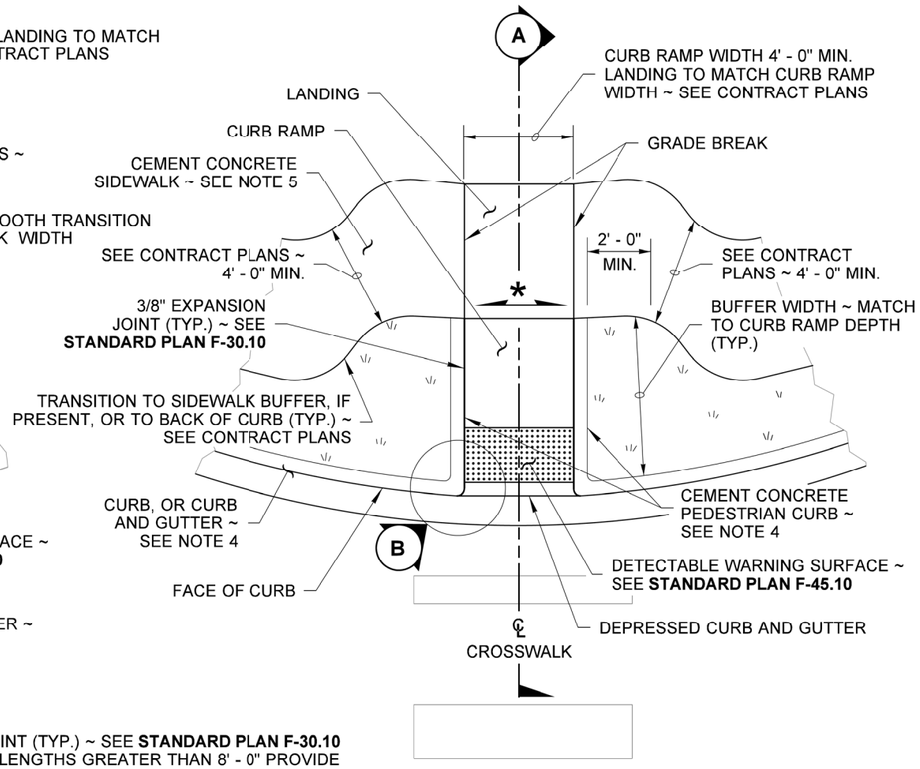
Washington State Department of Transportation

DRAWN BY: LISA CYFORD



PLAN VIEW

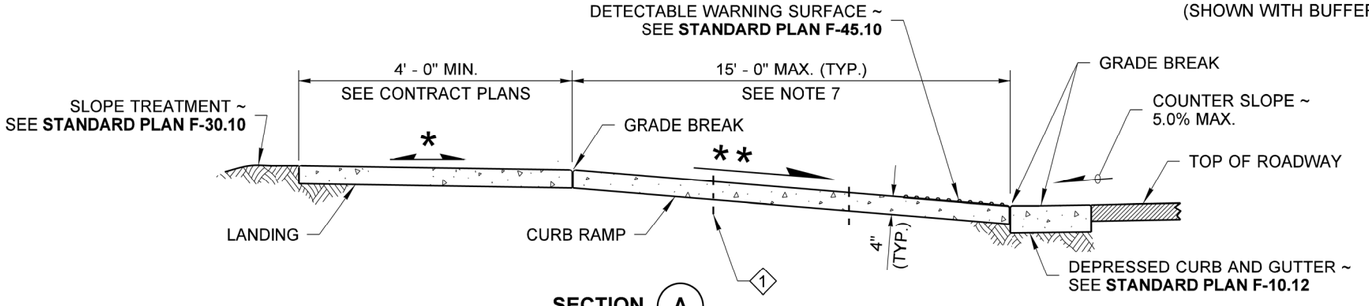
TYPE PERPENDICULAR A



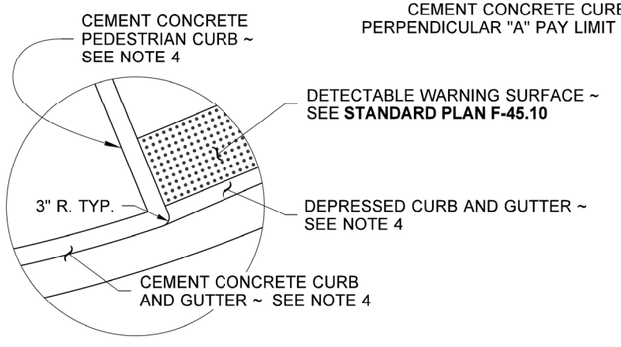
PLAN VIEW

TYPE PERPENDICULAR B
(SHOWN WITH BUFFER)

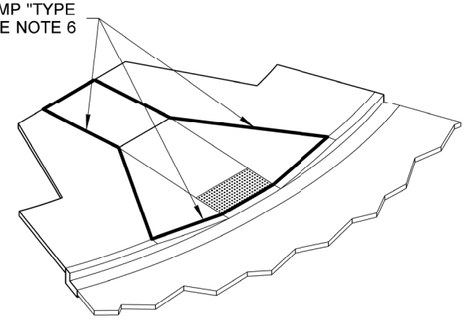
① CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.10** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



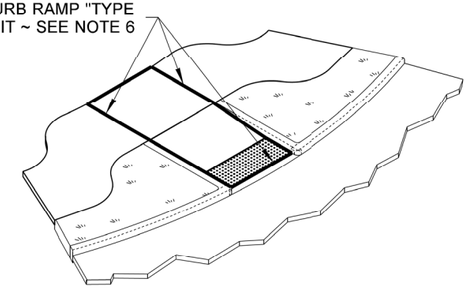
SECTION (A)



CURB RADIUS DETAIL (B)



ISOMETRIC VIEW
TYPE PERPENDICULAR A PAY LIMIT



ISOMETRIC VIEW
TYPE PERPENDICULAR B PAY LIMIT

NOTES

1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in front of the Curb Ramp where it connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length, the running slope of the Curb Ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the landing over a horizontal distance of 15 feet. Do not include the abutting landing in the 15-foot max. measurement.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.

LEGEND

⟋ ⟍	SLOPE IN EITHER DIRECTION
*	1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
* *	7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.)
* * *	9.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (10% MAX.)

R. SCOTT ZELLER · STATE OF WASHINGTON · 28680 · REGISTERED PROFESSIONAL ENGINEER

Zeller, Scott
Jun 24 2016 7:20 AM

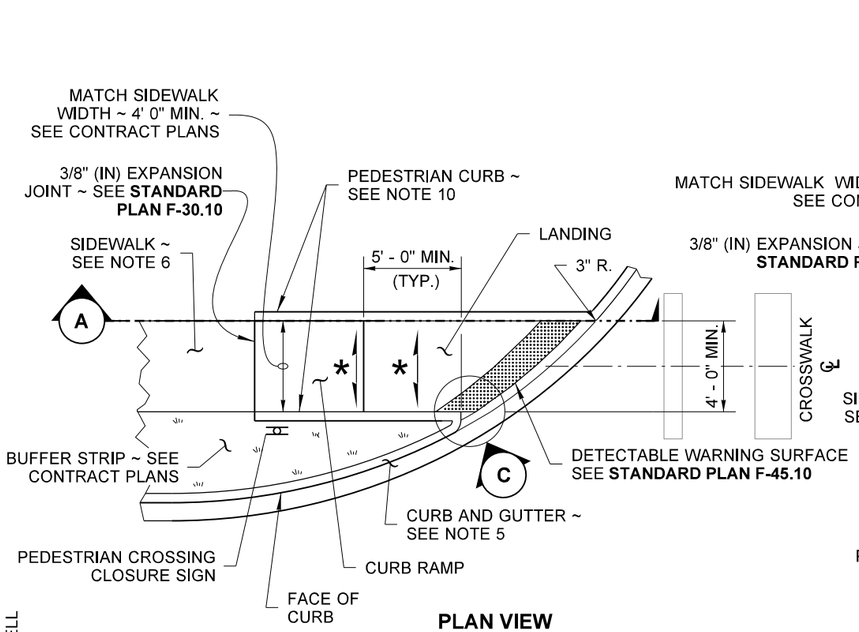
PERPENDICULAR CURB RAMP

STANDARD PLAN F-40.15-03

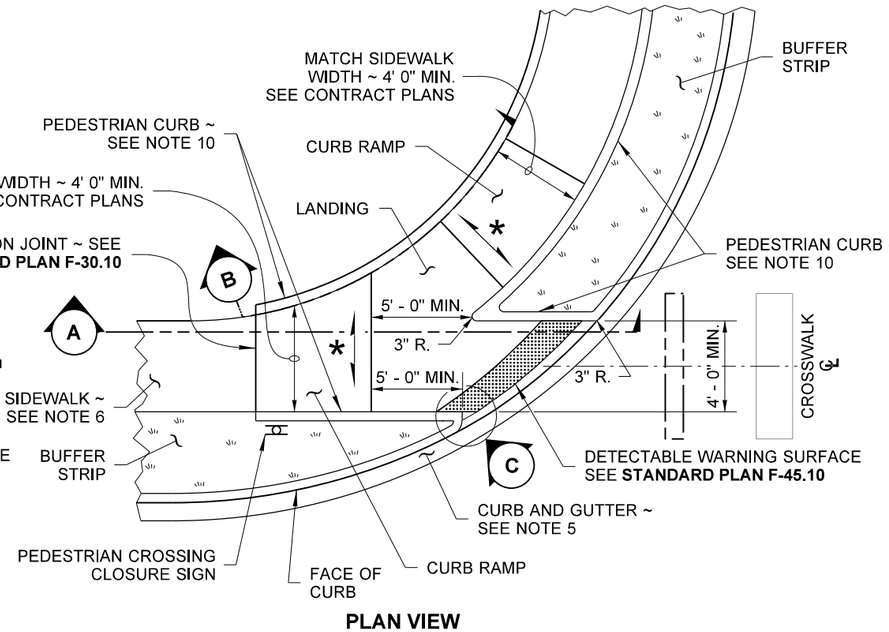
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Jun 29 2016 2:28 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: F

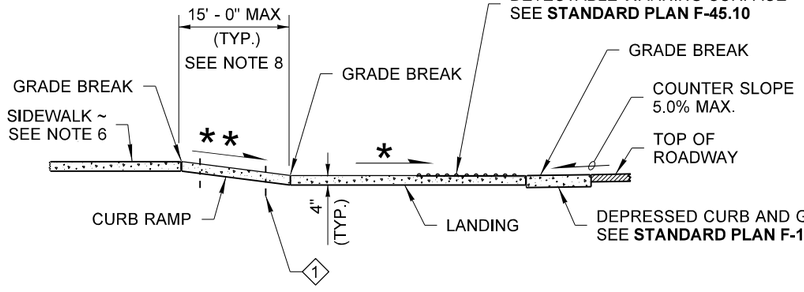


PLAN VIEW
TYPE SINGLE DIRECTION A

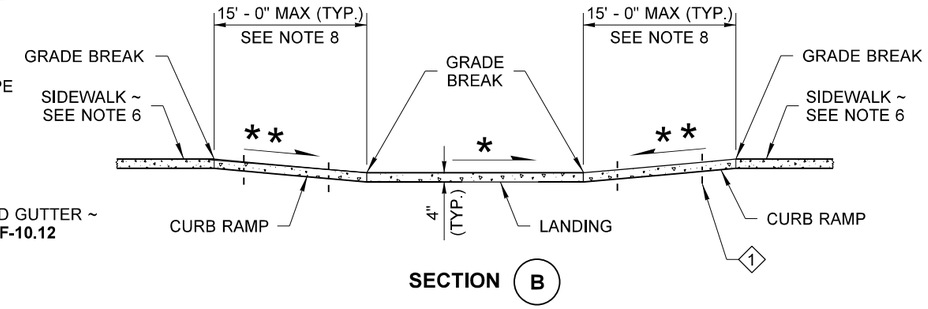


PLAN VIEW
TYPE SINGLE DIRECTION B

DRAWN BY: FERN LIDDELL



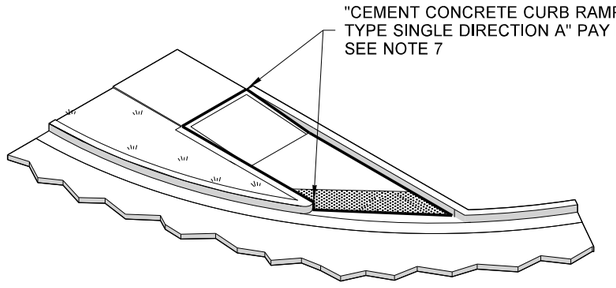
SECTION (A)



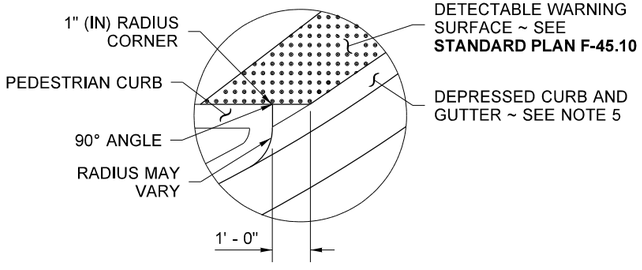
SECTION (B)

1 CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.10** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

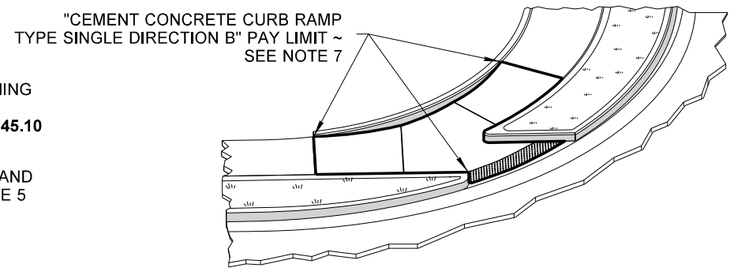
(ALONG INSIDE RADIUS AT BACK OF WALKWAY)



ISOMETRIC VIEW
TYPE SINGLE DIRECTION A
PAY LIMIT



DETAIL (C)



ISOMETRIC VIEW
TYPE SINGLE DIRECTION B
PAY LIMIT

NOTES

1. This plan is to be used where pedestrian crossing in one direction is not permitted.
2. At marked crosswalks, the connection between the Landing and the roadway must be contained within the width of the crosswalk markings.
3. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
4. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing or in the Depressed Curb and Gutter where the Landing connects to the roadway.
5. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb, Gutter and Pedestrian Curb details.
6. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
7. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
8. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.
9. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14.**
10. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.

LEGEND

- SLOPE IN EITHER DIRECTION
- * 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- * * 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) SEE NOTE 7

R. SCOTT ZELLER
STATE OF WASHINGTON
28680
REGISTERED
PROFESSIONAL ENGINEER

SINGLE DIRECTION CURB RAMP

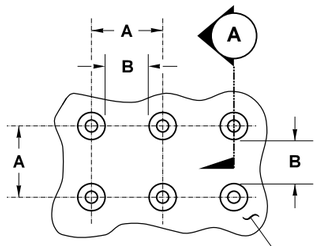
STANDARD PLAN F-40.16-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

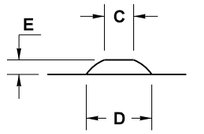
STATE DESIGN ENGINEER

Washington State Department of Transportation



TRUNCATED DOME SPACING
SEE NOTE 3

SEE STANDARD SPECIFICATIONS FOR COLOR OF SURFACE

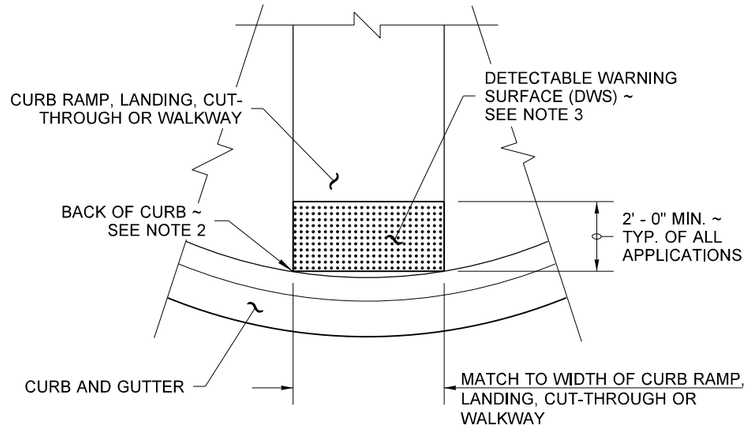


TRUNCATED DOME

SECTION (A)

	MIN.	MAX.
A	1.60"	2.40"
B	0.65"	—
C	0.45"	0.90"
D	0.9"	1.40"
E	0.2"	0.2"

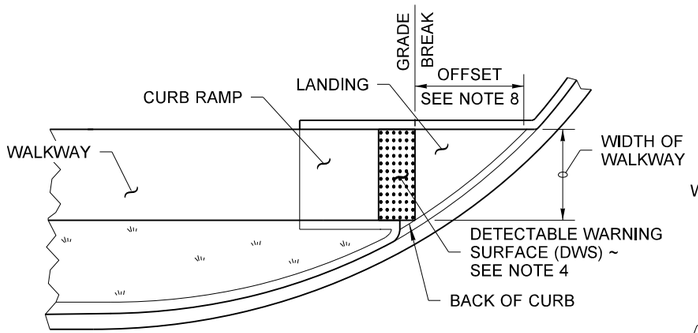
TRUNCATED DOME DETAILS



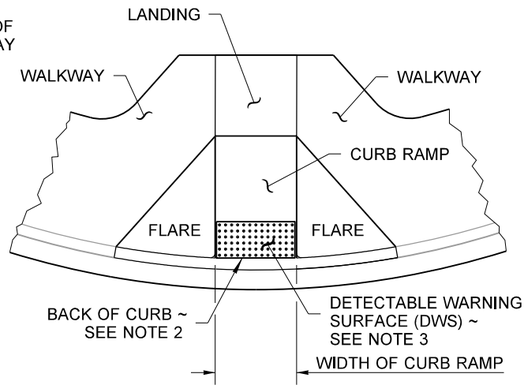
DETECTABLE WARNING SURFACE DETAIL

NOTES

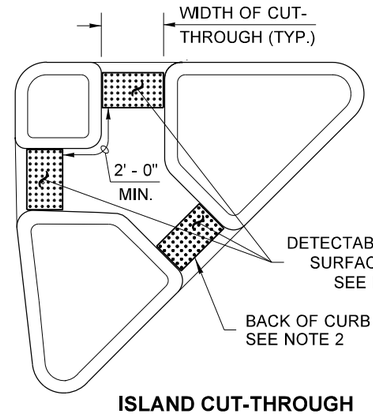
1. The Detectable Warning Surface (DWS) shall extend the full width of the curb ramp, landing, or other roadway entrance as applicable. Exception: If the Manufacturer of the DWS requires a concrete border around the DWS, a variance of up to 2 inches on each side of the DWS is permitted.
2. The Detectable Warning Surface (DWS) shall be placed at the back of curb, with the two leading corners of the DWS panel placed adjacent to the back of the curb, and with no more than a 2 inch gap between the DWS and the back of the curb measured at the center of the DWS panel. Exception: If the Manufacturer of the selected DWS requires a concrete border around the DWS, a variance of up to 2 inches from the back of the curb is permitted (measured at the leading corners of the DWS panel).
3. The rows of truncated domes shall be aligned to be perpendicular to the grade break at the back of curb.
4. The rows of truncated domes shall be aligned to be parallel to the direction of travel.
5. If curb and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.
6. See **Standard Plans** for sidewalk and curb ramp details.
7. If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail.
8. When the grade break between the curb ramp and the landing is less than or equal to 5 ft. from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp directly above the grade break.



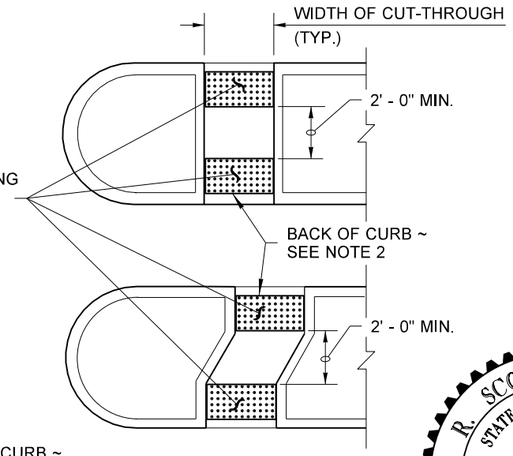
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING ≤ 5 FT. FROM BACK OF CURB)
(SEE NOTE 6)



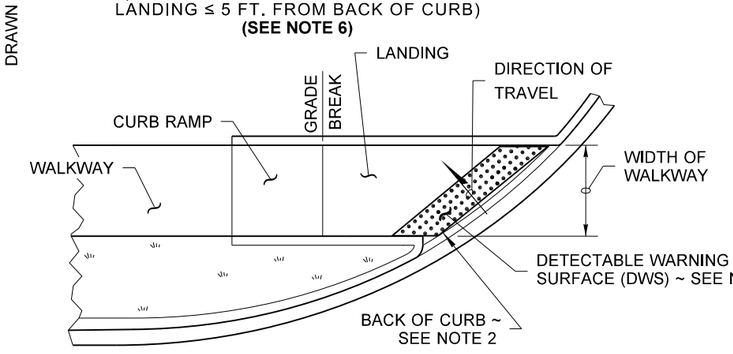
PERPENDICULAR CURB RAMP
(SEE NOTE 6)



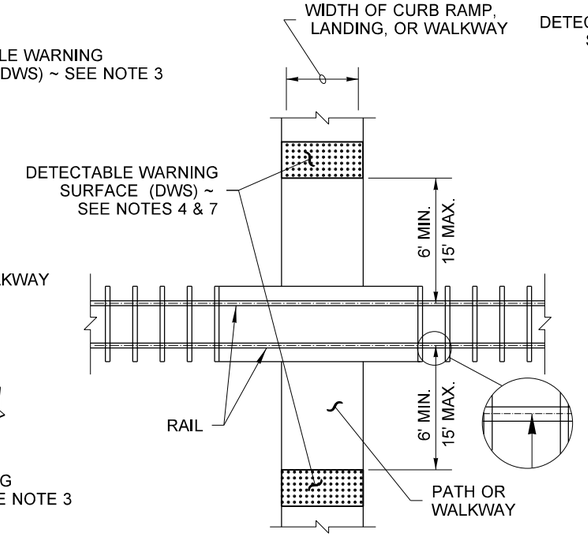
ISLAND CUT-THROUGH



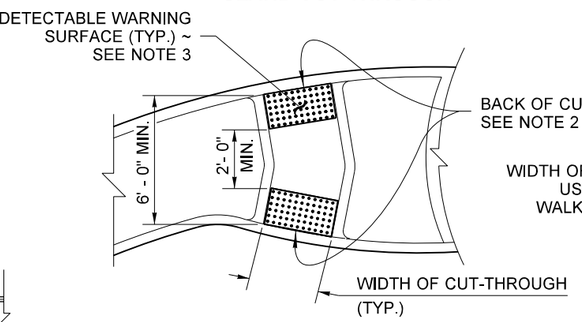
MEDIAN CUT-THROUGH



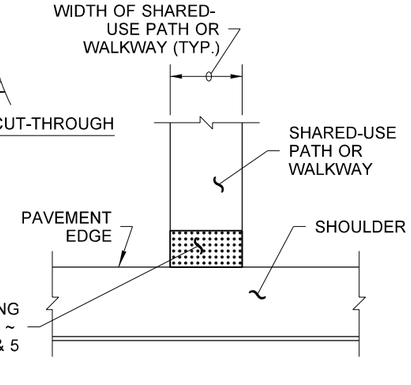
PARALLEL CURB RAMP
(SEE NOTE 6)



PEDESTRIAN RAILROAD CROSSING



ROUNDABOUT SPLITTER ISLAND



SHARED-USE PATH CONNECTION

PLACEMENT GUIDELINES

DETECTABLE WARNING SURFACE

STANDARD PLAN F-45.10-02

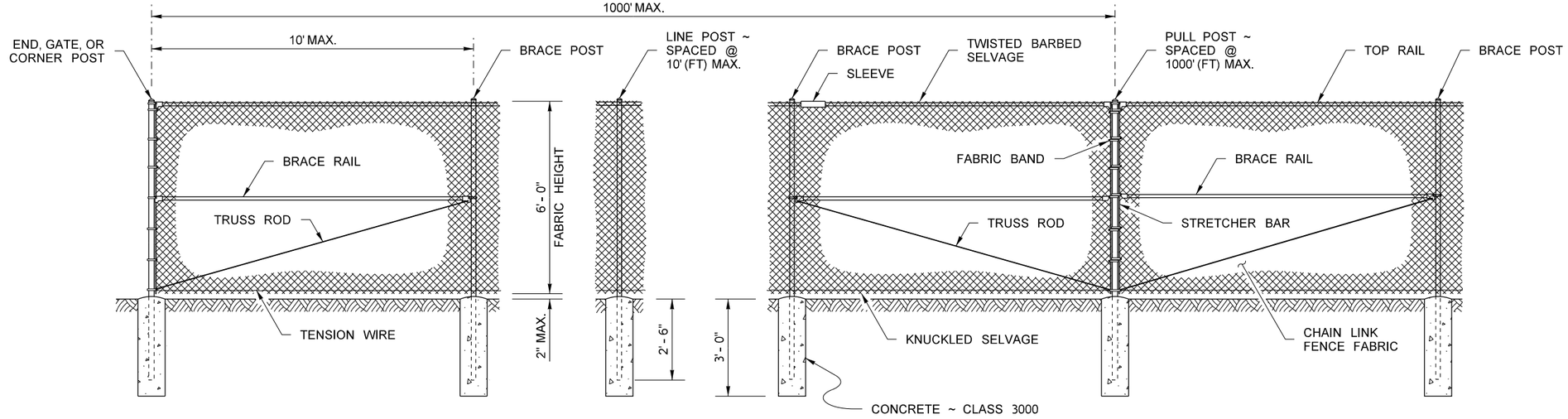
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

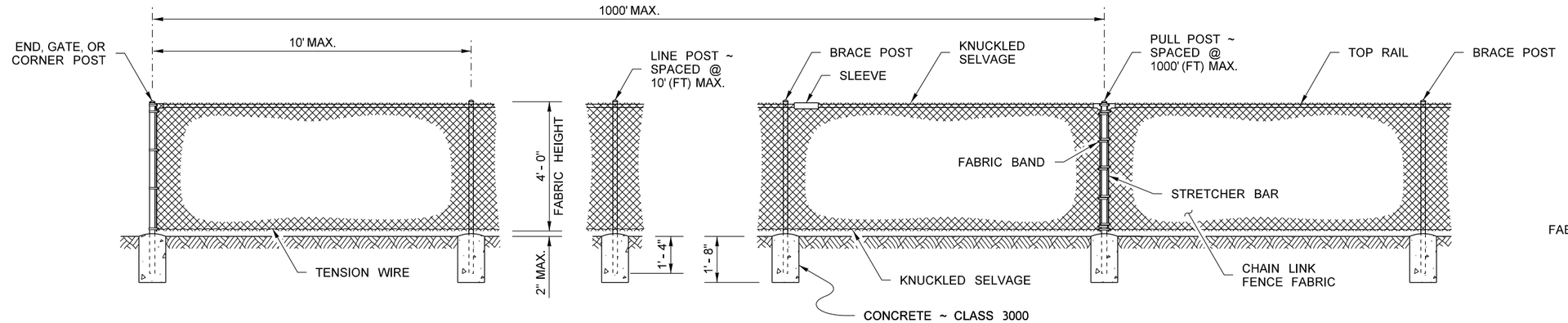
STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



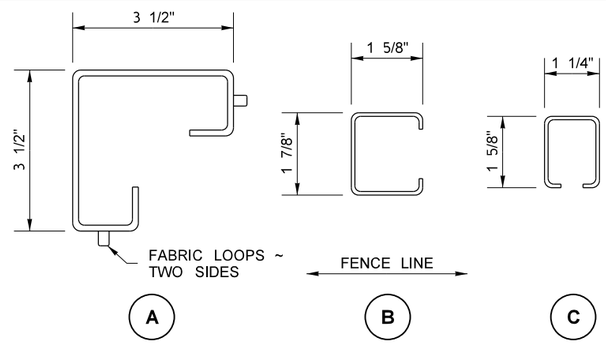
TYPE 1



TYPE 6

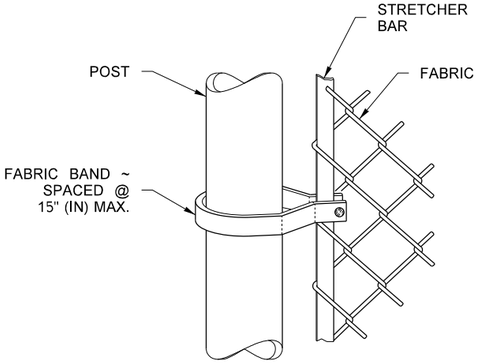
POST AND RAIL SPECIFICATIONS

MEMBER	PIPE	CONC.	
	NOM. SIZE (SCH. 40)	SECTION	WEIGHT (LB./FT.)
END, CORNER, OR PULL POST	2 1/2" DIAM.	A	5.10
LINE OR BRACE POST	2" DIAM.	B	2.40
BRACE OR TOP RAIL	1 1/4" DIAM.	C	1.35
GATE POST	3 1/2" DIAM.		



NOTES

1. ALL CONCRETE POST BASES SHALL BE 10" (IN) MINIMUM DIAMETER.
2. TENSION WIRE SHALL BE PLACED WITHIN THE LIMITS OF THE FIRST FULL FABRIC WEAVE.
3. DETAILS ARE ILLUSTRATIVE AND SHALL NOT LIMIT HARDWARE DESIGN OR POST SELECTION OF ANY PARTICULAR FENCE TYPE.



METHOD OF FASTENING STRETCHER BAR TO POST
(SHOWN FOR ROUND POST)

FILE NAME	S:\Design R P& S\4-Standards\2-Plan Sheet Library\01-Published PSL\(FS) Fence and Glare Screen\(FS-2) Chain Link Fence with Top Rail\FS-2.dgn					
TIME	2:44:01 PM			REGION NO.	STATE	FED.AID PROJ.NO.
DATE	10/2/2014				WASH	
PLOTTED BY	FletcCo			JOB NUMBER		
DESIGNED BY						
ENTERED BY				CONTRACT NO.	LOCATION NO.	
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

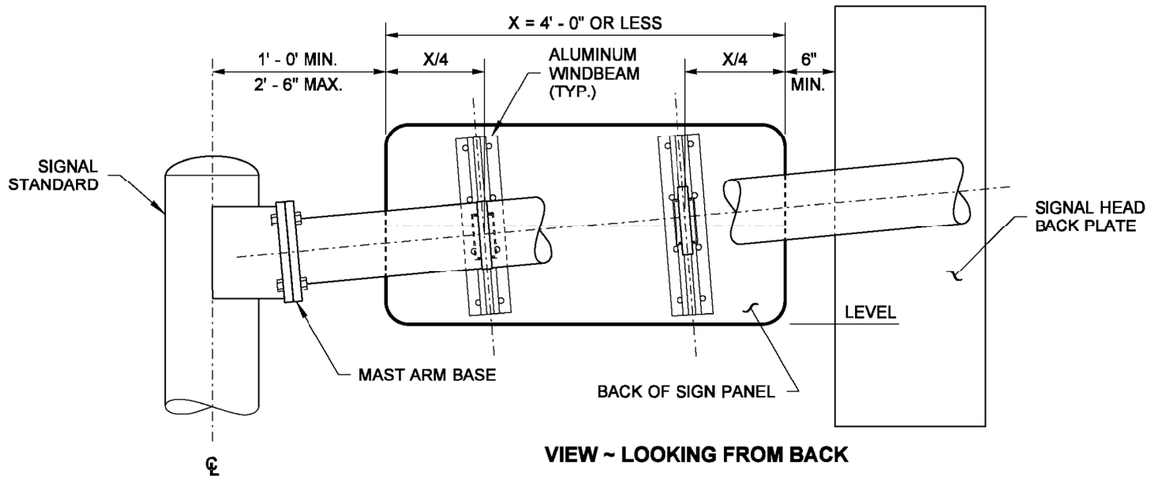
CHAIN LINK FENCE WITH TOP RAIL

Plot 1

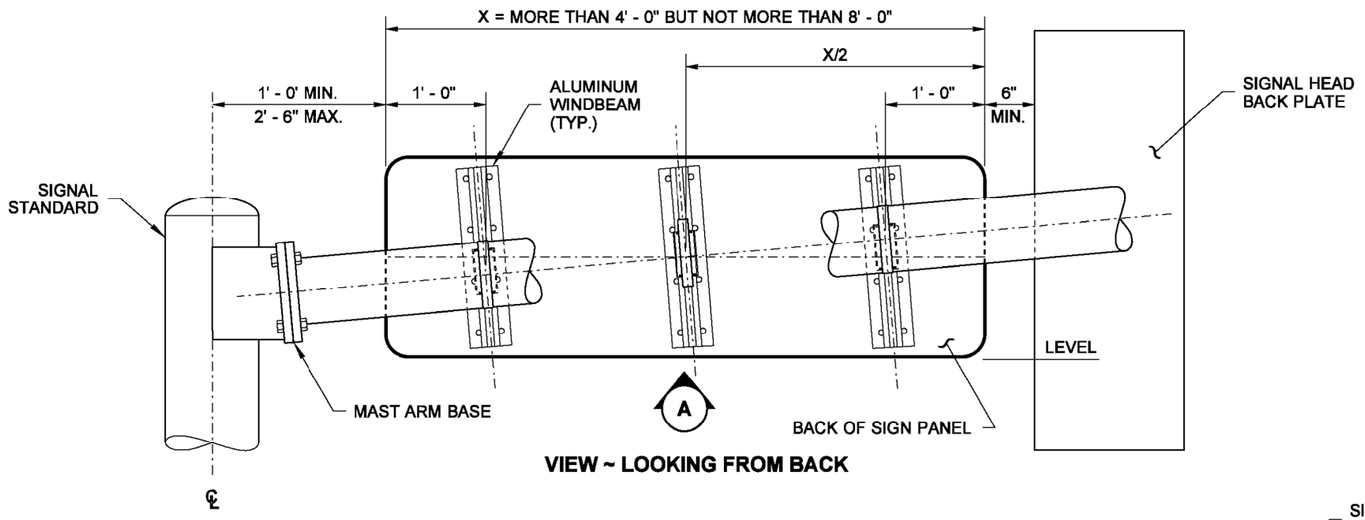
PLAN REF NO **FS-2**

SHEET 1 OF 1 SHEETS

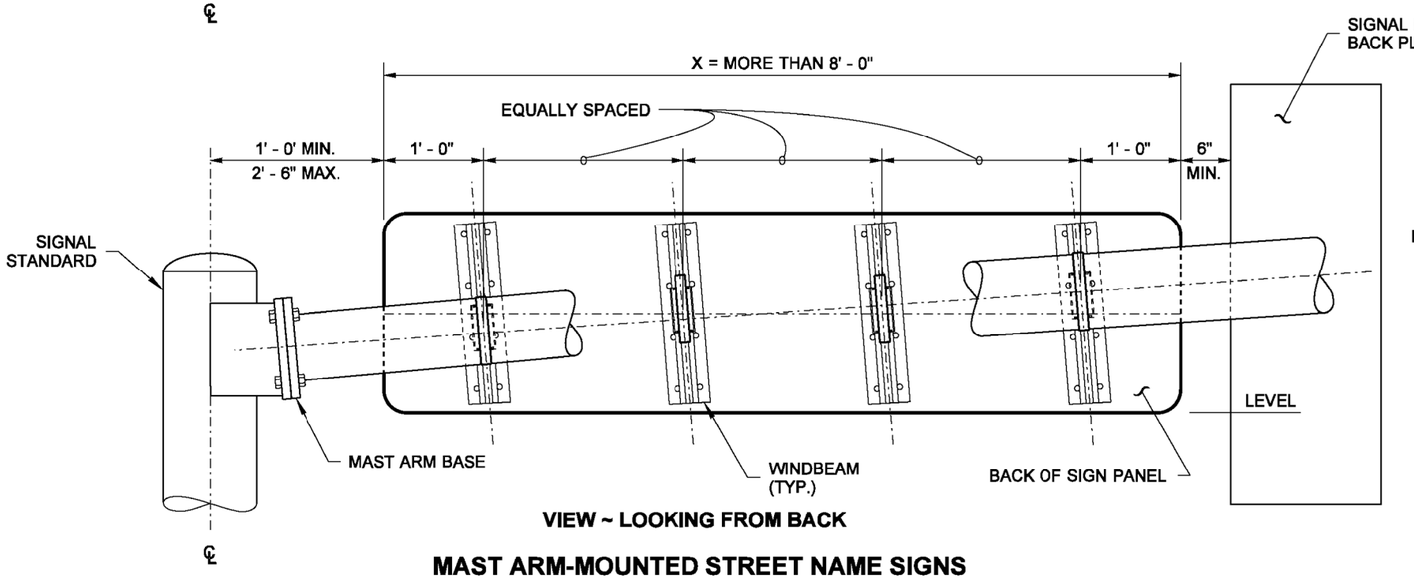
DRAWN BY: FERN LIDDELL



VIEW ~ LOOKING FROM BACK



VIEW ~ LOOKING FROM BACK

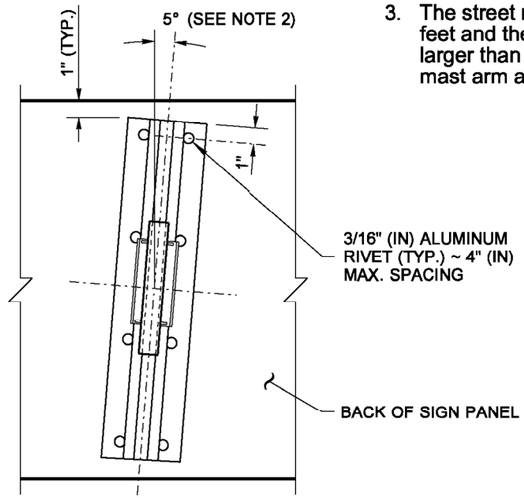


VIEW ~ LOOKING FROM BACK

MAST ARM-MOUNTED STREET NAME SIGNS

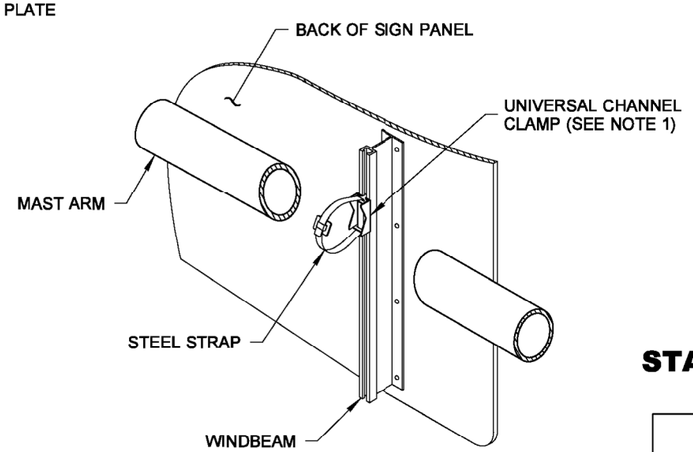
NOTES

1. Mounting brackets with steel straps shall be a stainless steel band and buckle system product or an approved equal. Mounting brackets shall be universal channel clamps; steel straps shall be 3/4" (in) wide and 0.030" (in) thick.
2. All signs installed on mast arms or standards (poles) require windbeams. All signs shall be installed with horizontal edges level. A skewed windbeam is required only when the sign is mounted within 12" (in) of the mast arm base (see Detail "A").
3. The street name sign shall be a maximum of 36 square feet and the sign height is a maximum of 3' (ft); signs larger than 36 square feet require a special design mast arm and signal pole.



DETAIL (A)

TYPICAL FOR EACH CONNECTION



TYPICAL MAST ARM INSTALLATION

JOHN C. NISBET
STATE OF WASHINGTON
29115
REGISTERED
PROFESSIONAL ENGINEER

Nisbet, John
Jun 22 2015 9:49 AM

cosign

SIGN INSTALLATION ON SIGNAL AND LIGHT STANDARDS STANDARD PLAN G-30.10-04

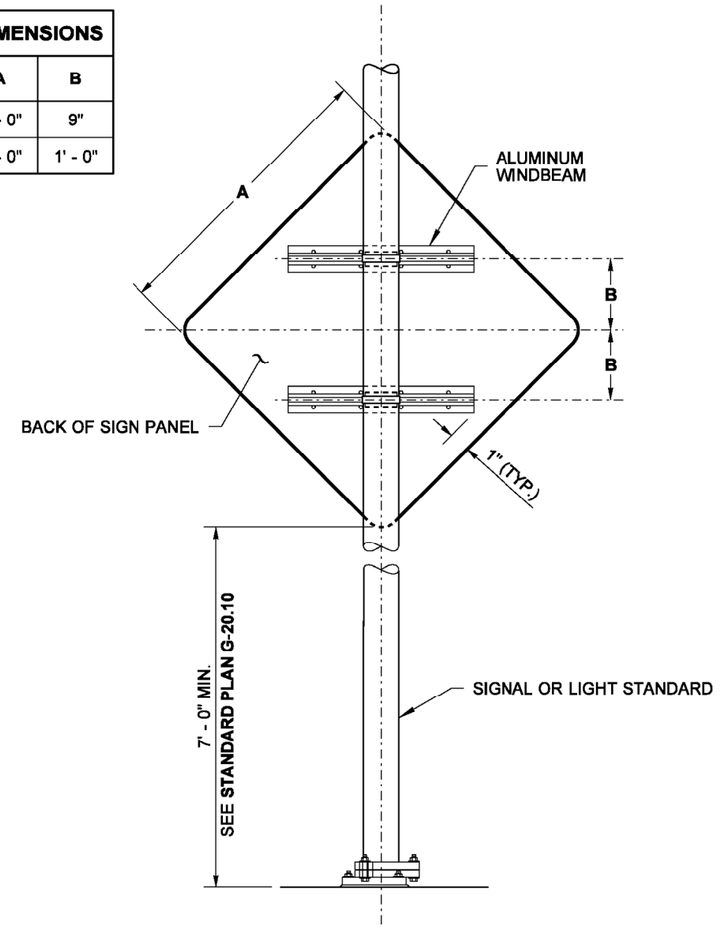
SHEET 1 OF 2 SHEETS

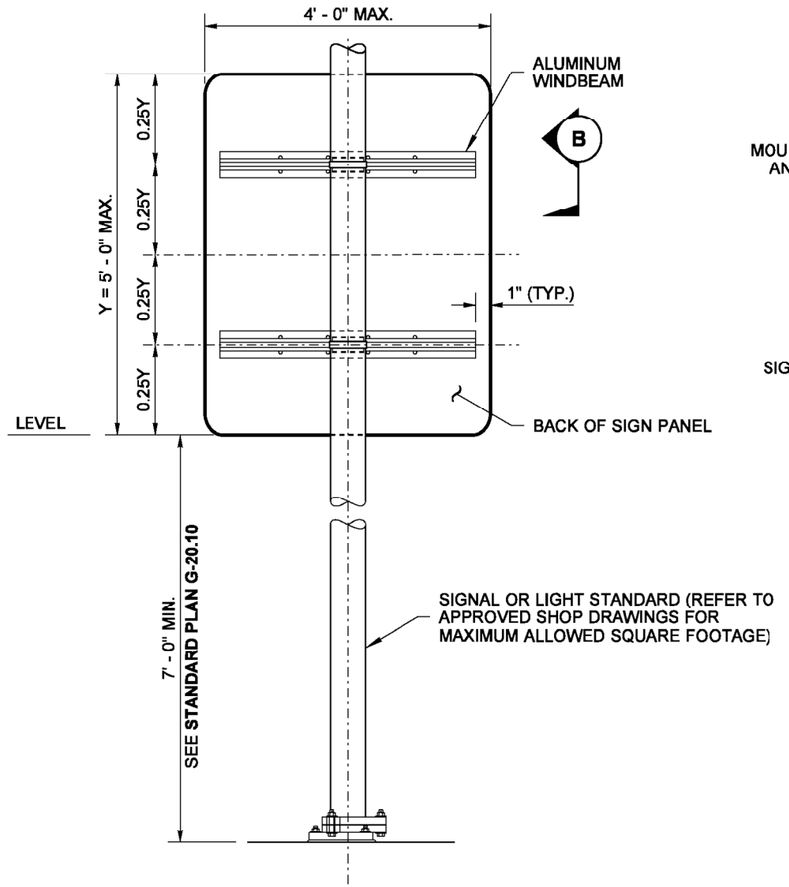
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jun 23 2015 7:31 AM
STATE DESIGN ENGINEER

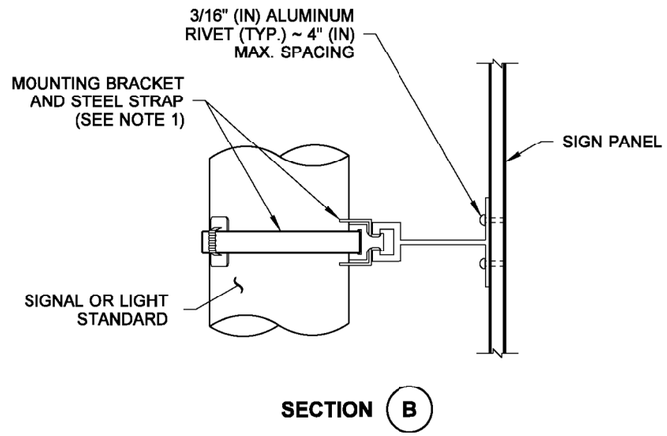
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

DIMENSIONS	
A	B
3' - 0"	9"
4' - 0"	1' - 0"







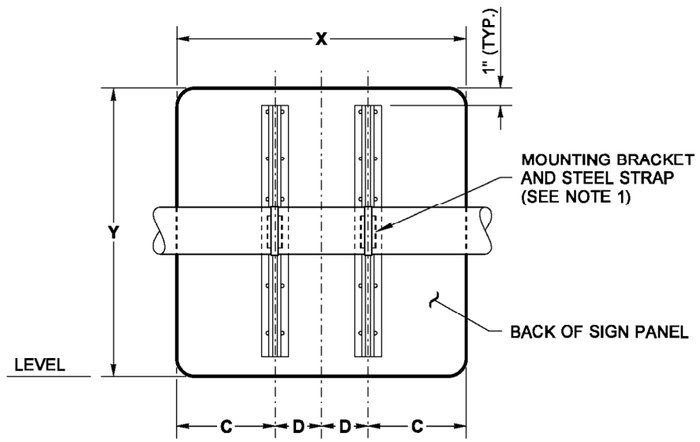
SECTION (B)

SIGN INSTALLATION ON SIGNAL OR LIGHT STANDARD

DIMENSIONS			
X	Y	C	D
3' - 0"	2' - 6"	1' - 0"	6"
3' - 0"	3' - 0"	1' - 0"	6"
3' - 0"	4' - 0"	1' - 3"	9"
4' - 0"	2' - 6"	1' - 3"	9"

NOTE:

Any Lane Use Sign greater than 7.5 sq ft. requires a Special Design Mast Arm and Signal Pole.



MAST ARM-MOUNTED LANE USE SIGNS

JOHN C. NISBET
STATE OF WASHINGTON
29115
REGISTERED
PROFESSIONAL ENGINEER

Nisbet, John
Jun 22 2015 9:50 AM

cosign

SIGN INSTALLATION ON SIGNAL AND LIGHT STANDARDS STANDARD PLAN G-30.10-04

SHEET 2 OF 2 SHEETS

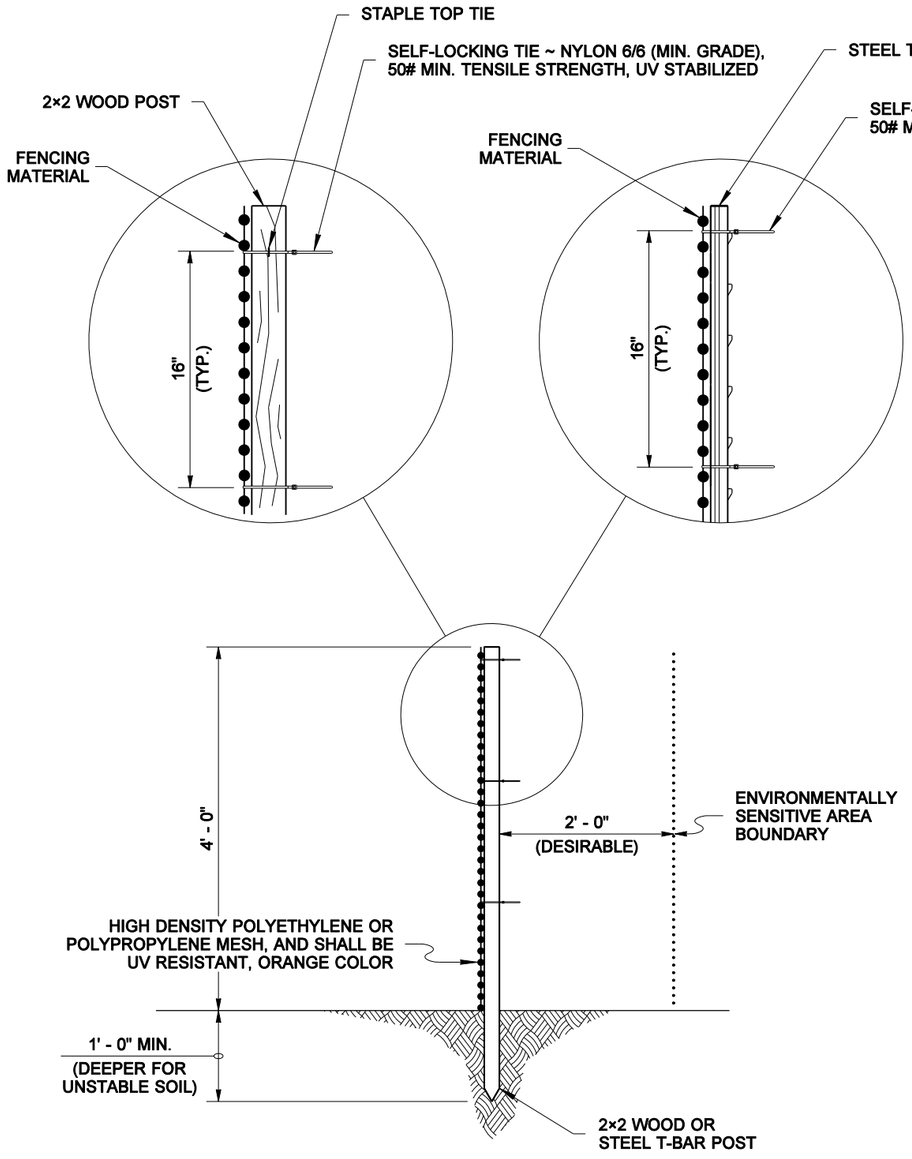
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jun 23 2015 7:31 AM

cosign

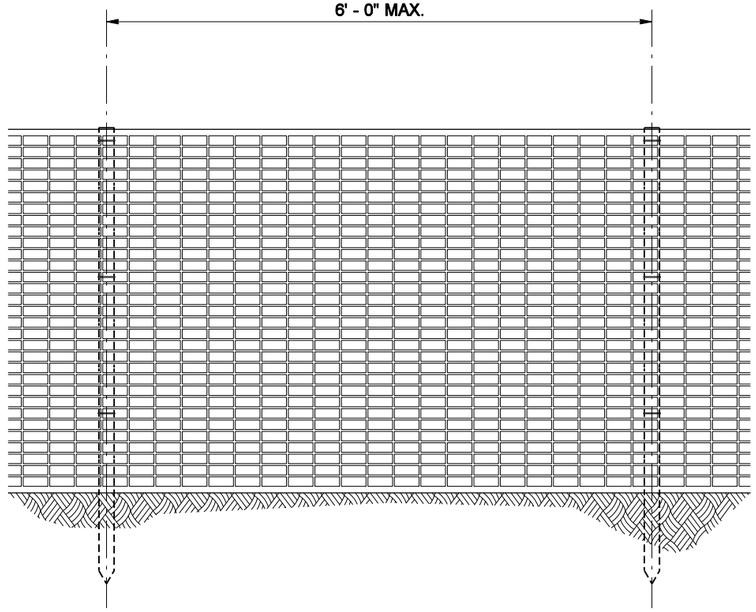
STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: BILL BERENS



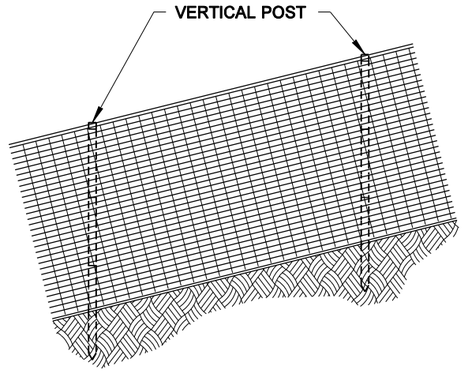
TYPICAL SECTION



ELEVATION

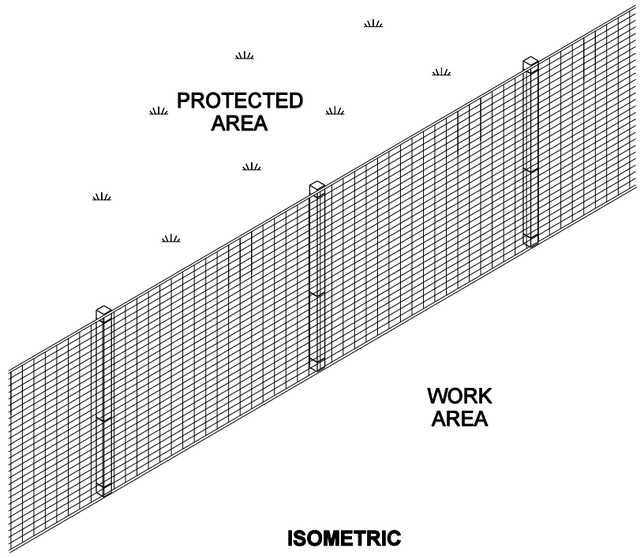
NOTE

1. Post shall have sufficient strength and durability to support the fence through the life of the project.



ELEVATION

FENCE ON SLOPE



ISOMETRIC

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

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HIGH VISIBILITY FENCE

STANDARD PLAN I-10.10-01

SHEET 1 OF 1 SHEET

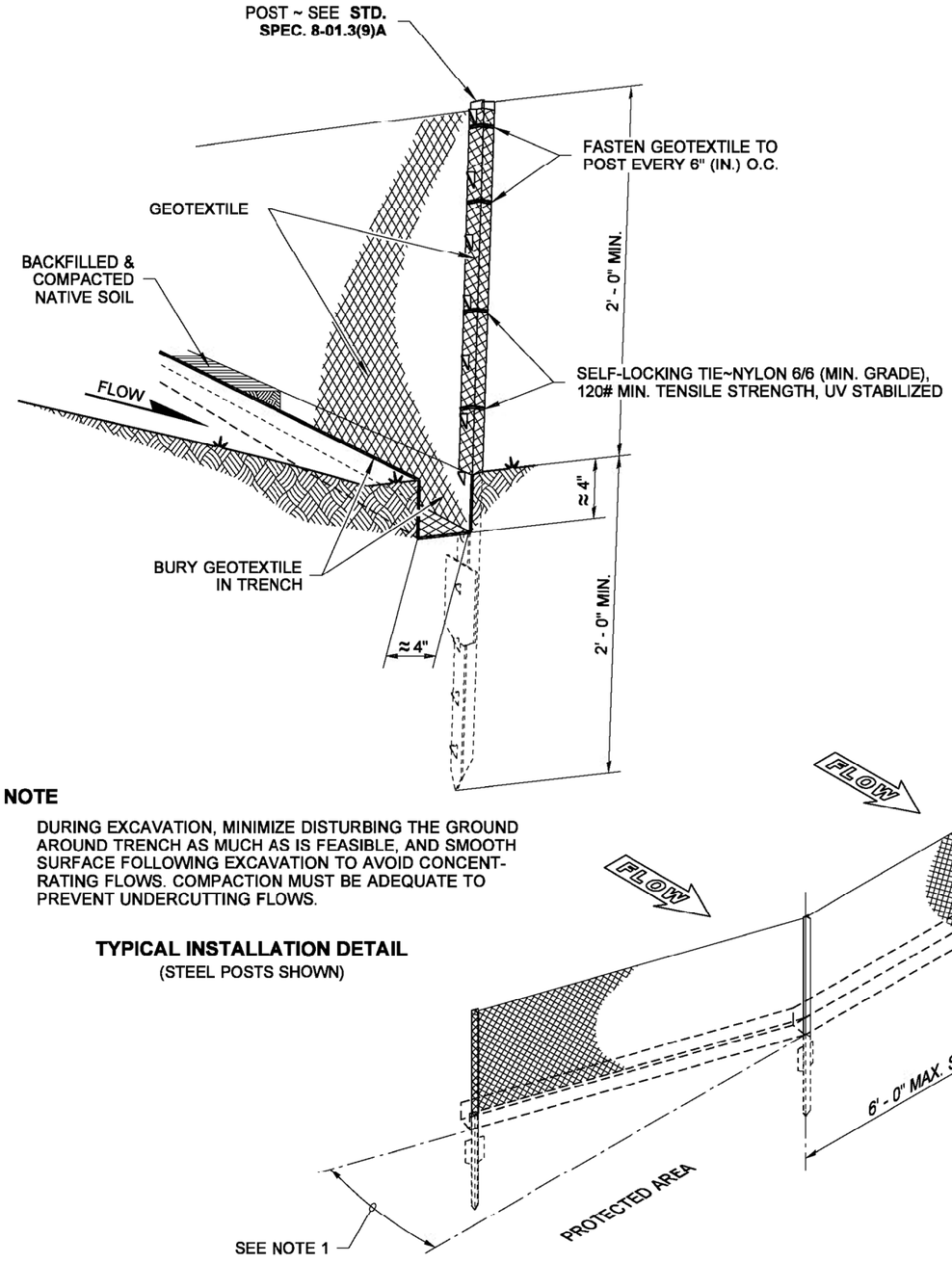
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

08-11-09 — DATE

Washington State Department of Transportation

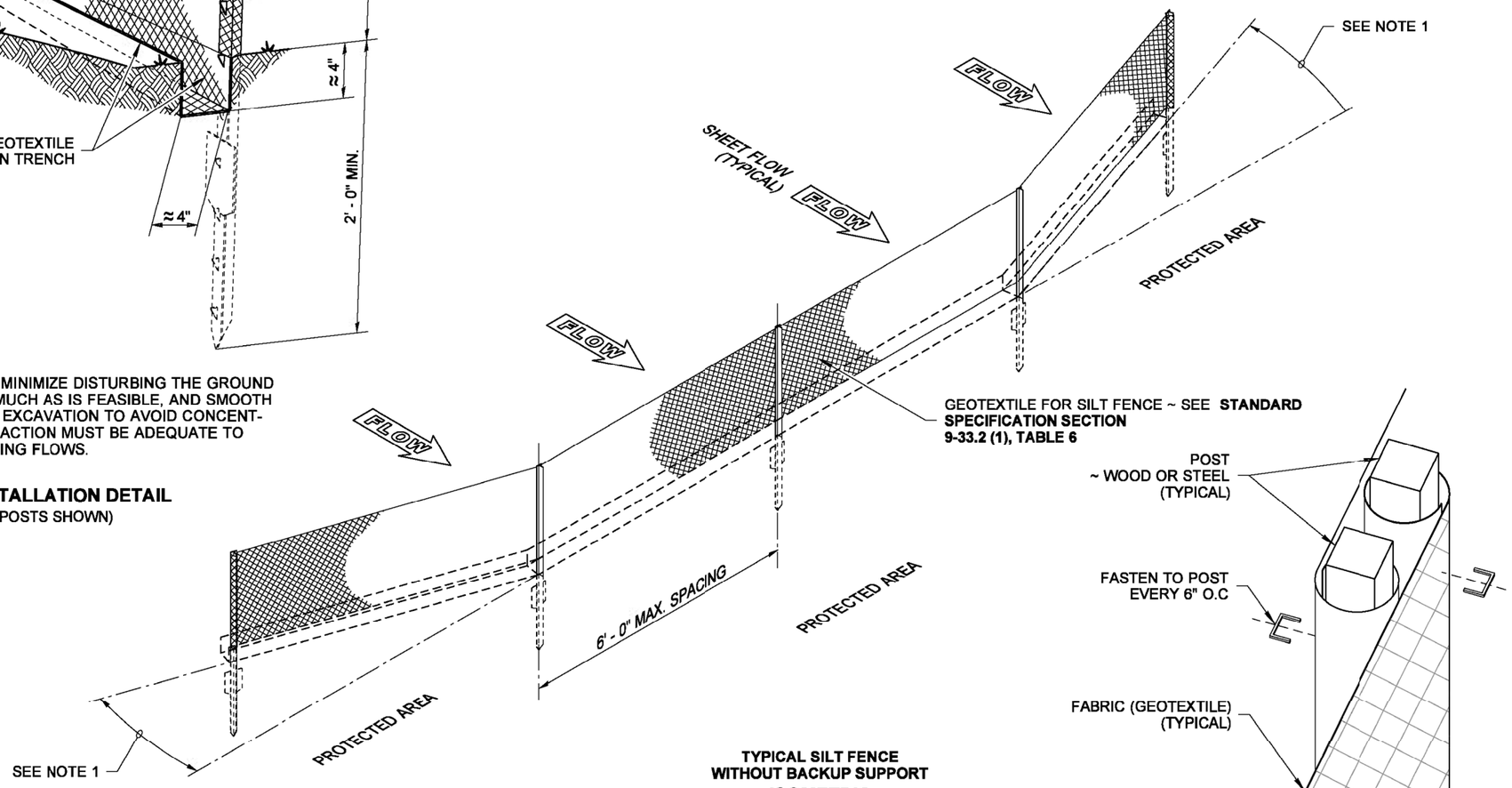
DRAWN BY: BILL BERENS



NOTE

DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

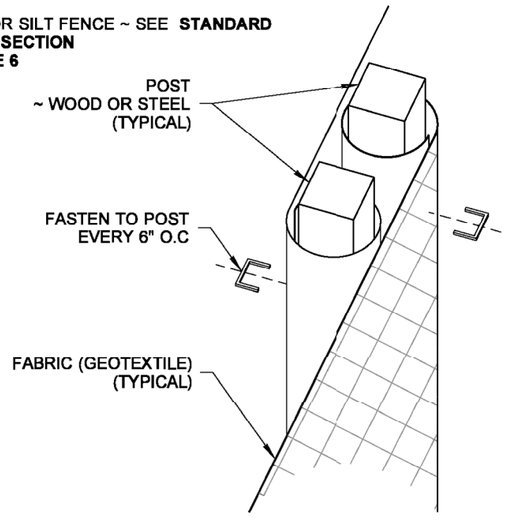
TYPICAL INSTALLATION DETAIL
(STEEL POSTS SHOWN)



TYPICAL SILT FENCE WITHOUT BACKUP SUPPORT
ISOMETRIC
(STEEL POSTS SHOWN)

NOTES

1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
(WOOD POSTS SHOWN)

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

SANDRA L. SALISBURY
CERTIFICATE NO. 000860

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SILT FENCE

STANDARD PLAN I-30.15-02

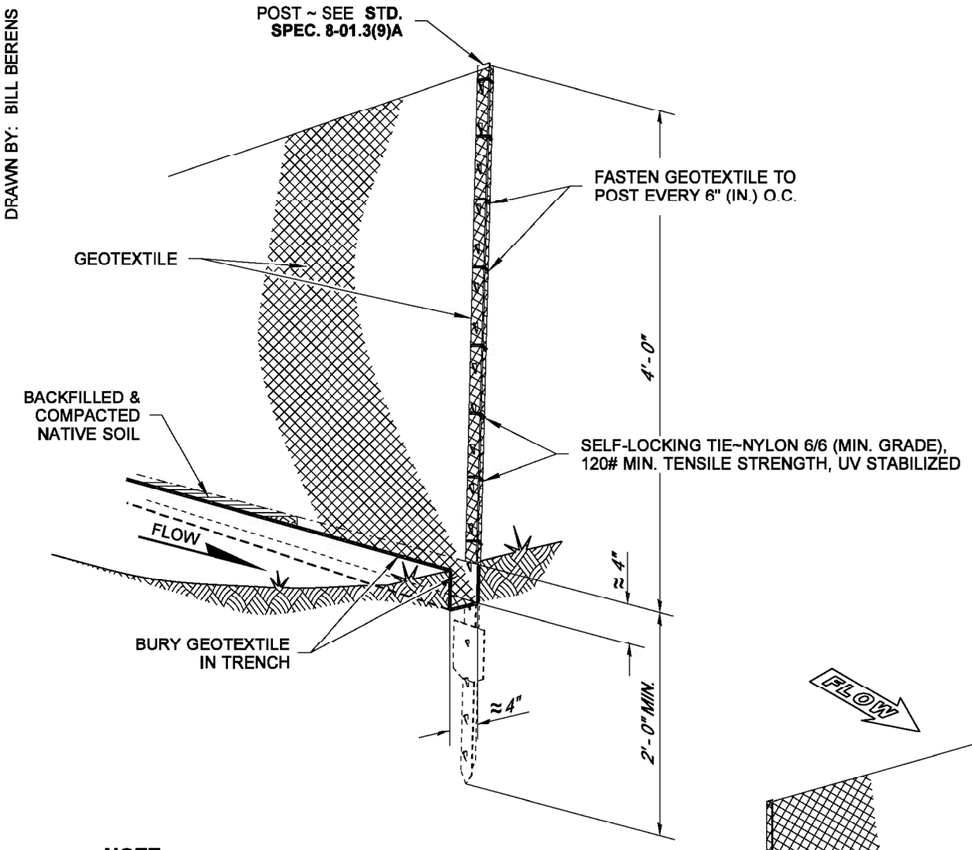
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER
3/22/13 — DATE

Washington State Department of Transportation

DRAWN BY: BILL BERENS

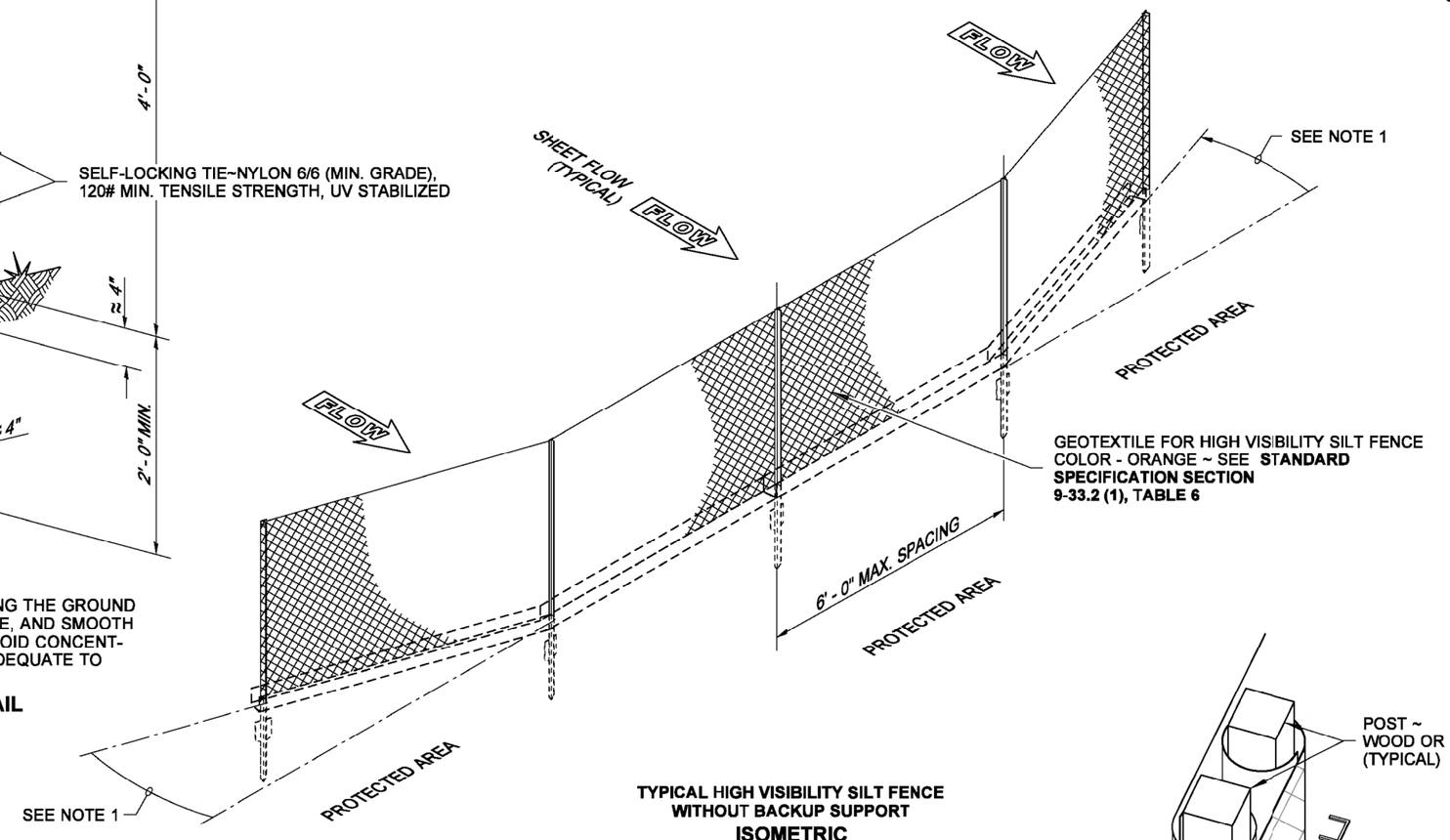


NOTE

DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL

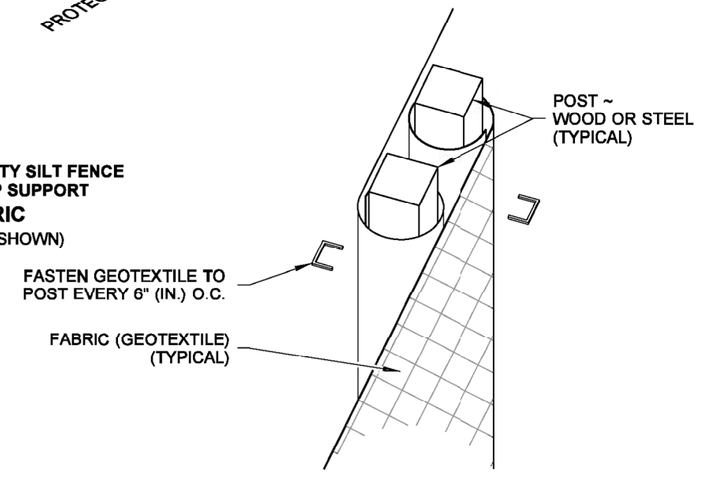
(STEEL POSTS SHOWN)



TYPICAL HIGH VISIBILITY SILT FENCE WITHOUT BACKUP SUPPORT

ISOMETRIC

(STEEL POSTS SHOWN)



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP. JOINING SECTIONS SHALL NOT BE PLACED IN LOW SPOTS OR IN SUMP LOCATIONS.

SPLICE DETAIL

(WOOD POSTS SHOWN)

NOTES

1. Install the ends of the high visibility silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

SANDRA L. SALISBURY
CERTIFICATE NO. 000860

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HIGH VISIBILITY SILT FENCE

STANDARD PLAN I-30.17-00

SHEET 1 OF 1 SHEET

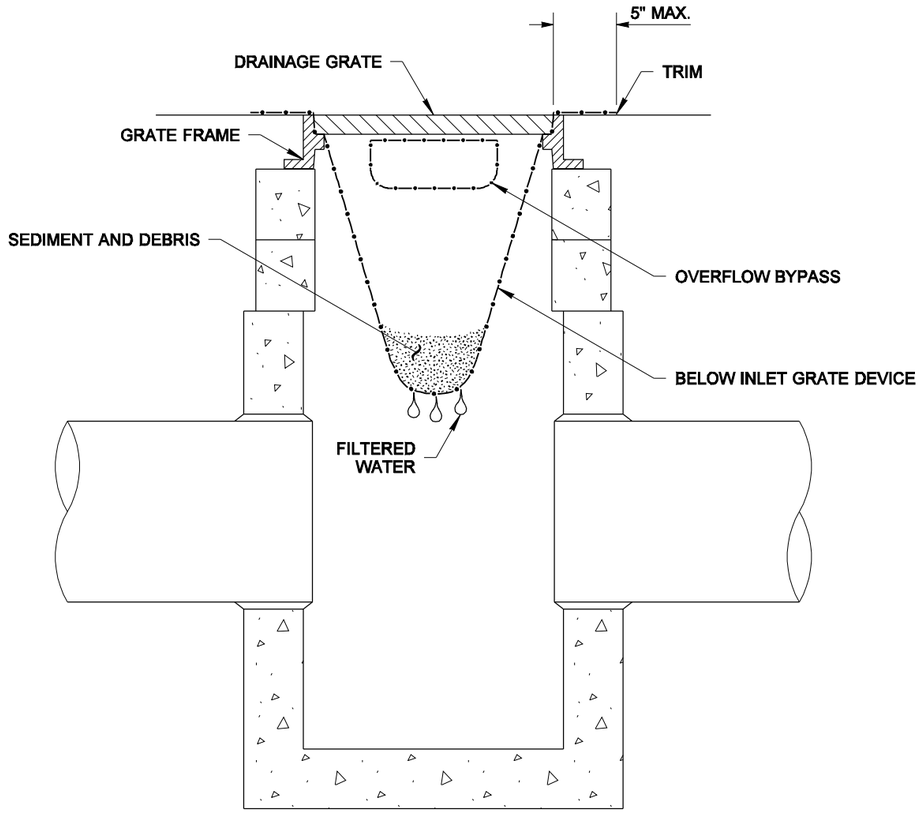
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

3/22/13 — DATE

Washington State Department of Transportation

DRAWN BY: LISA CYFORD

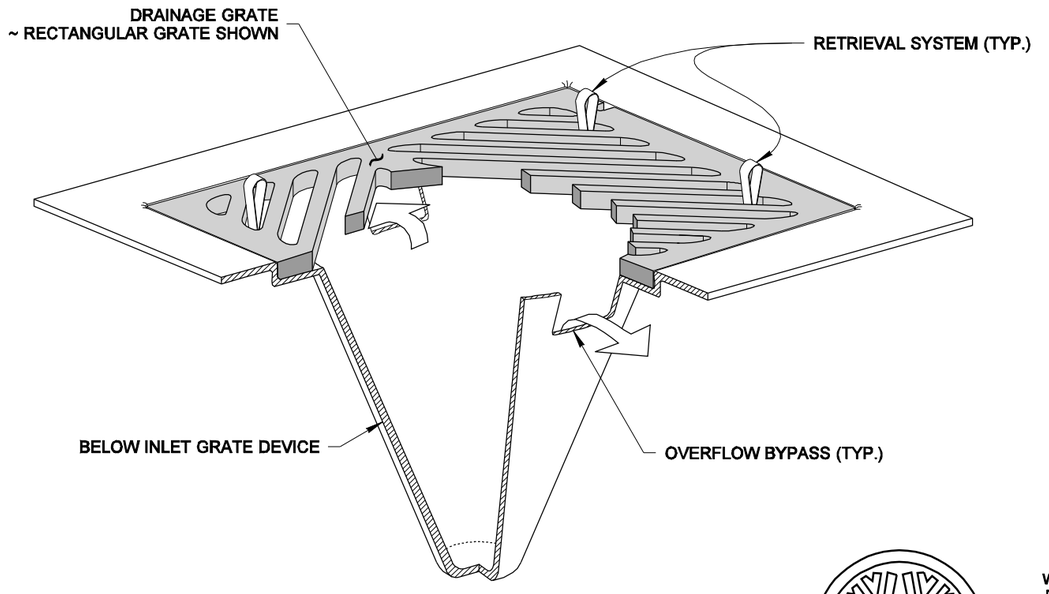


SECTION VIEW

NOT TO SCALE

NOTES

1. Size the Below Inlet Grate Device (BIGD) for the storm water structure it will service.
2. The BIGD shall have a built-in high-flow relief system (overflow bypass).
3. The retrieval system must allow removal of the BIGD without spilling the collected material.
4. Perform maintenance in accordance with Standard Specification 8-01.3(15).



ISOMETRIC VIEW

STATE OF
WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

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STORM DRAIN INLET PROTECTION

STANDARD PLAN I-40.20-00

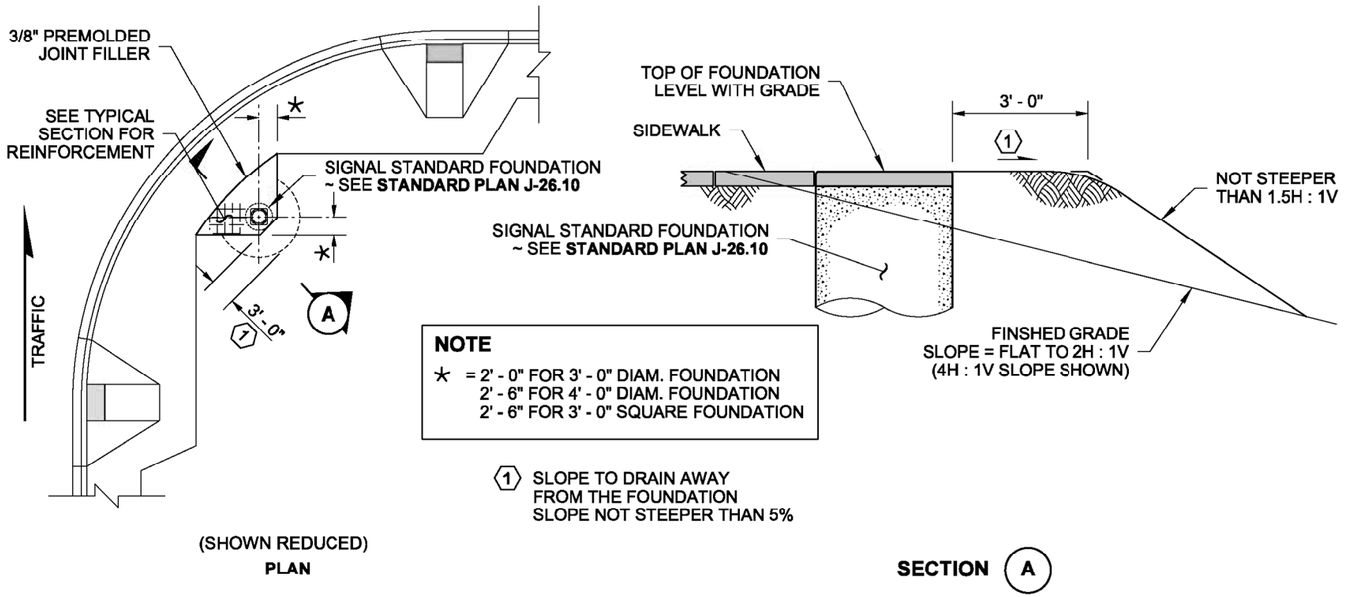
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

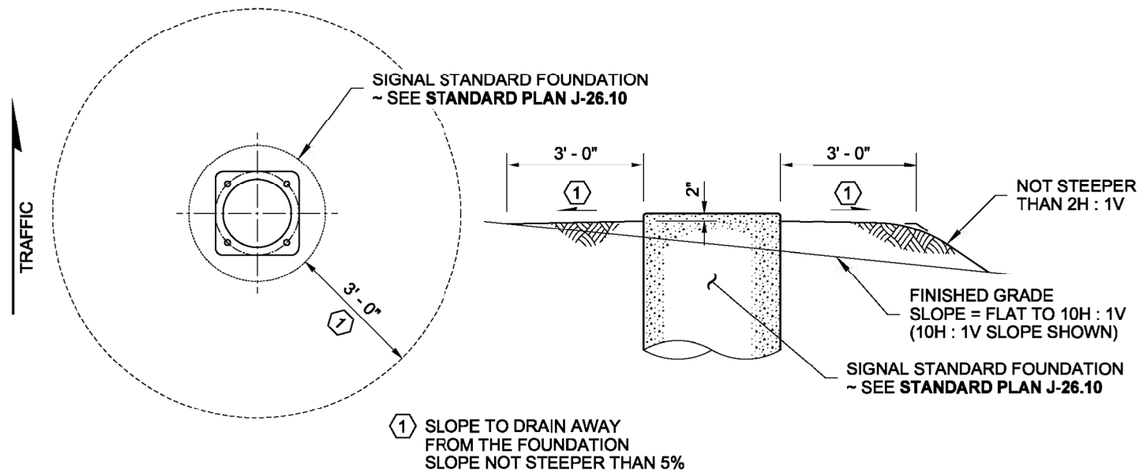
09-20-07 — DATE

Washington State Department of Transportation



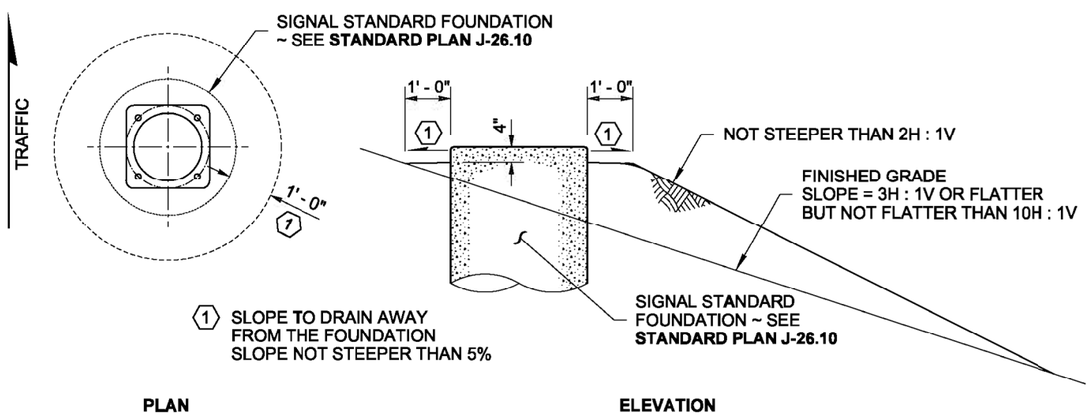
FOUNDATION IN OR NEAR SIDEWALK

CASE A



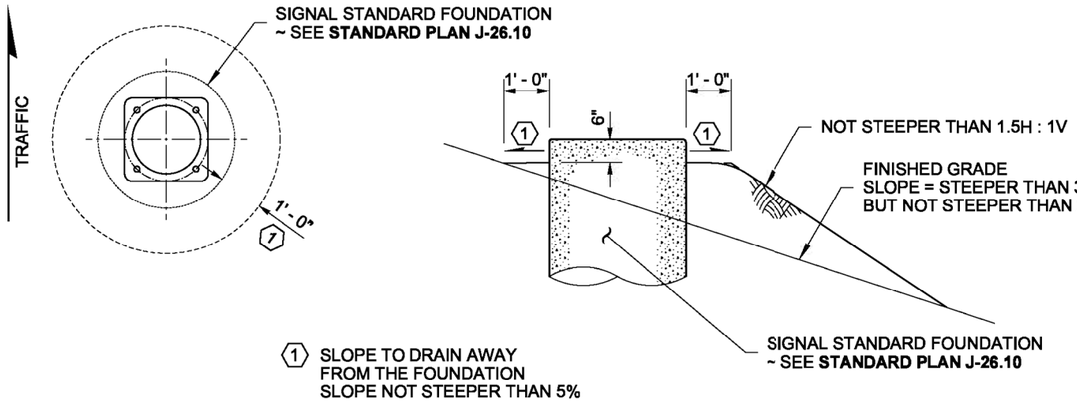
EXISTING GRADE OR FILL SLOPE = FLAT TO 10H : 1V

CASE B



EXISTING GRADE OR FILL SLOPE = 10H : 1V TO ≤ 3H : 1V

CASE C



EXISTING GRADE OR FILL SLOPE = > 3H : 1V TO 2H : 1V

CASE D

THEODORE JOSEPH BAILEY
STATE OF WASHINGTON
39820
REGISTERED
PROFESSIONAL ENGINEER

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SIGNAL STANDARD FOUNDATION PLACEMENTS

STANDARD PLAN J-26.15-01

SHEET 1 OF 3 SHEETS

APPROVED FOR PUBLICATION

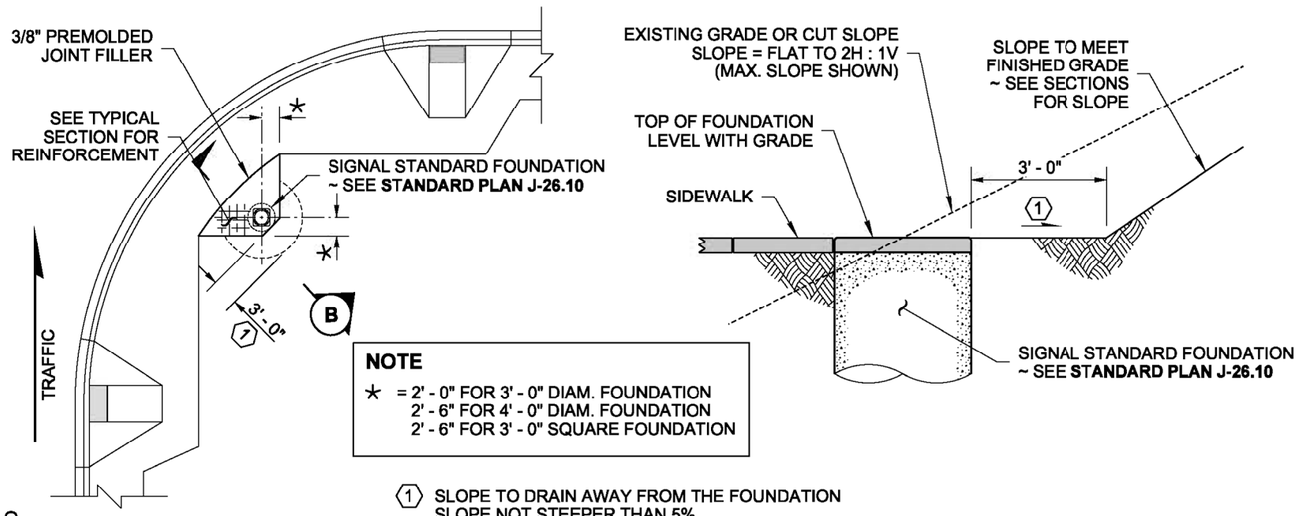
Pasco Bakotich III — STATE DESIGN ENGINEER

05/17/12 — DATE

Washington State Department of Transportation

DRAWN BY: LISA CYFO

RD



NOTE

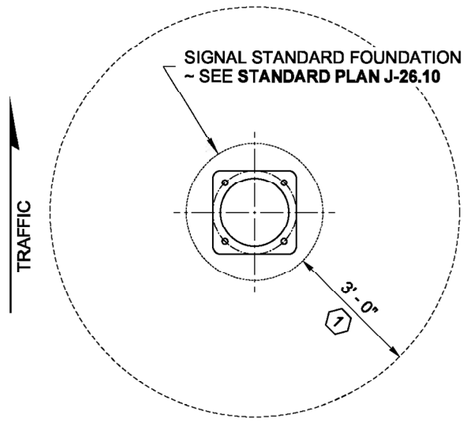
* = 2' - 0" FOR 3' - 0" DIAM. FOUNDATION
2' - 6" FOR 4' - 0" DIAM. FOUNDATION
2' - 6" FOR 3' - 0" SQUARE FOUNDATION

(1) SLOPE TO DRAIN AWAY FROM THE FOUNDATION SLOPE NOT STEEPER THAN 5%

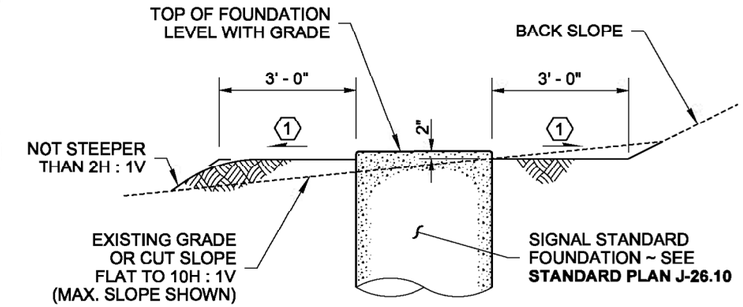
(SHOWN REDUCED)
PLAN

SECTION (B)

FOUNDATION IN OR NEAR SIDEWALK
CASE E



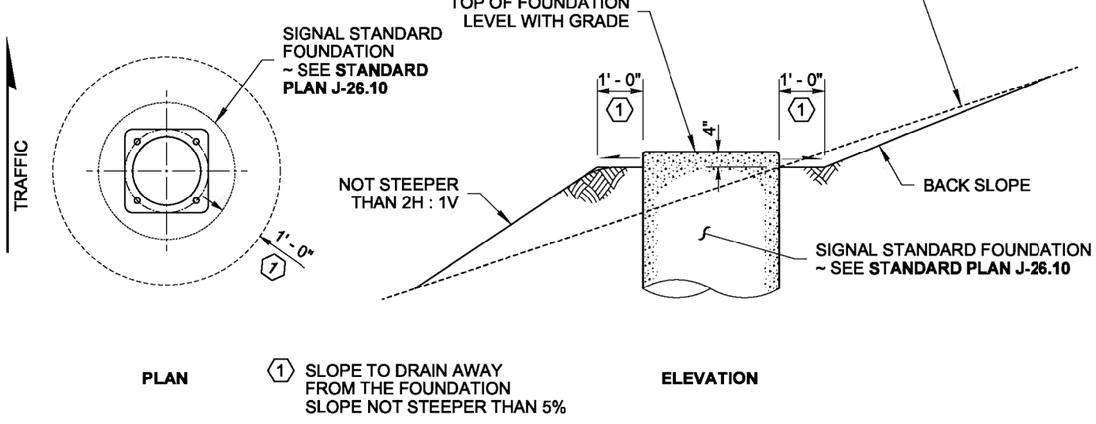
PLAN



(1) SLOPE TO DRAIN AWAY FROM THE FOUNDATION SLOPE NOT STEEPER THAN 5%

ELEVATION

EXISTING GRADE OR CUT SLOPE FLAT TO 10H : 1V
CASE F

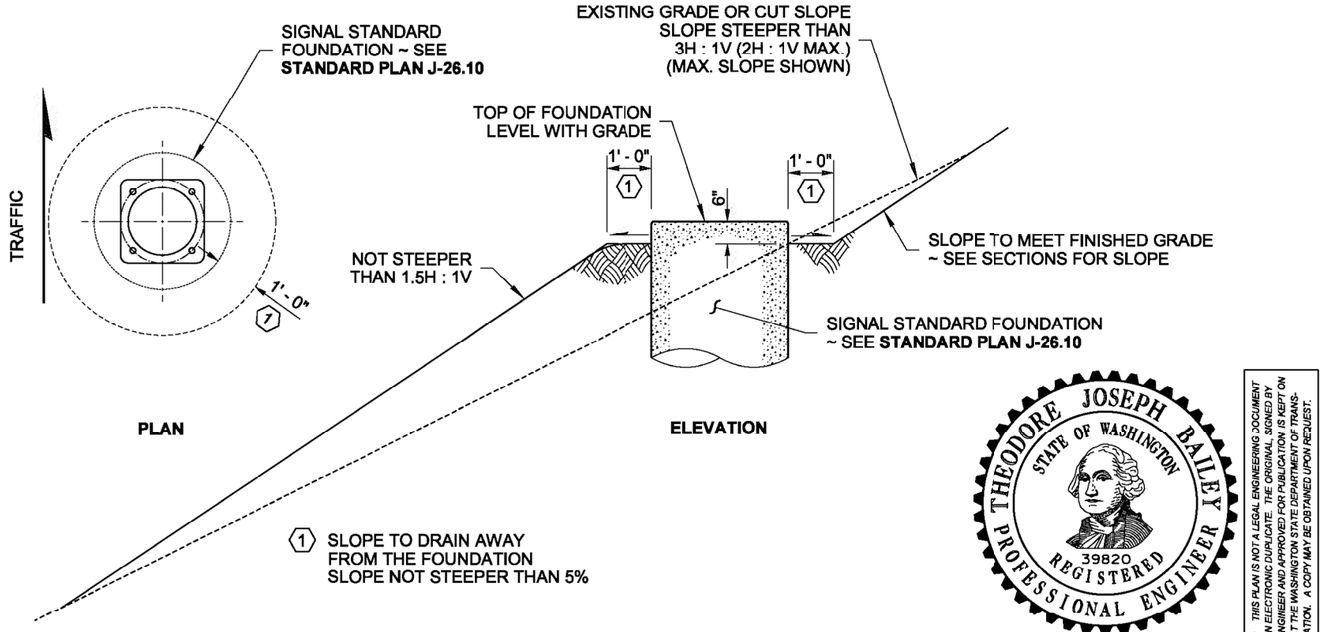


PLAN

(1) SLOPE TO DRAIN AWAY FROM THE FOUNDATION SLOPE NOT STEEPER THAN 5%

ELEVATION

EXISTING GRADE OR CUT SLOPE 10H : 1V TO ≤ 3H : 1V
CASE G



PLAN

(1) SLOPE TO DRAIN AWAY FROM THE FOUNDATION SLOPE NOT STEEPER THAN 5%

ELEVATION

EXISTING GRADE OR CUT SLOPE STEEPER THAN 3H : 1V (2H : 1V MAX.)
CASE H

THEODORE JOSEPH BAILEY
STATE OF WASHINGTON
39820
REGISTERED
PROFESSIONAL ENGINEER

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SIGNAL STANDARD FOUNDATION PLACEMENTS

STANDARD PLAN J-26.15-01

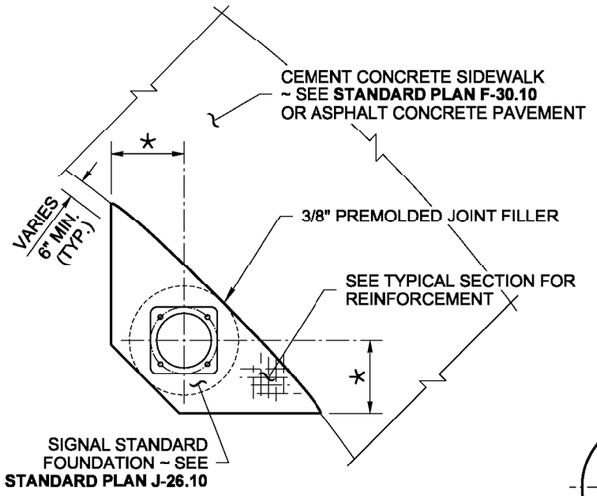
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER
05/17/12 — DATE

Washington State Department of Transportation

DRAWN BY: LISA CYFORD

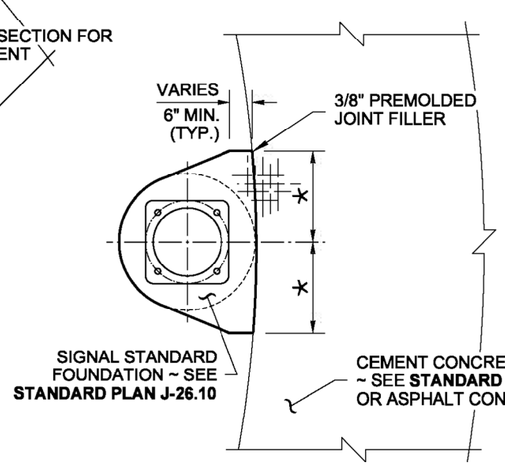
DRAWN BY: LISA CYFORD



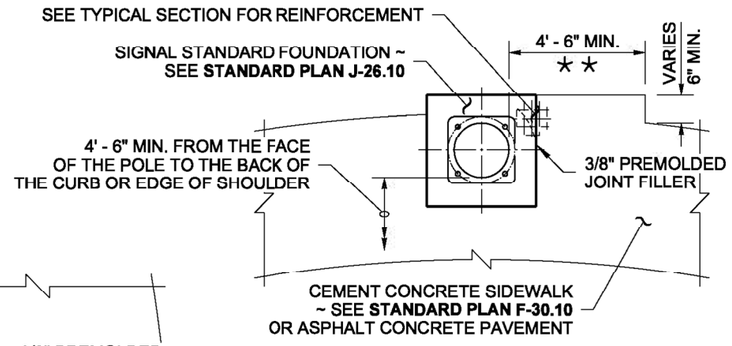
DUAL PEDESTRIAN PUSH BUTTON

NOTE

* = 2' - 0" FOR 3' - 0" DIAM. FOUNDATION
2' - 6" FOR 4' - 0" DIAM. FOUNDATION
2' - 6" FOR 3' - 0" SQUARE FOUNDATION



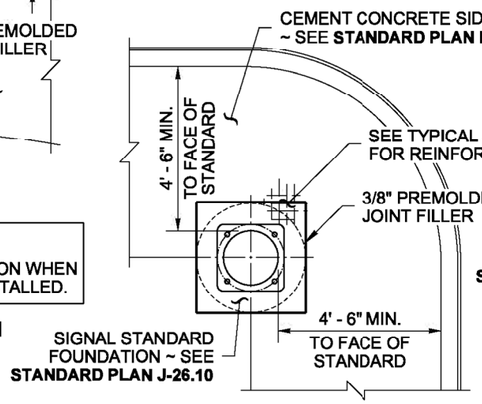
SINGLE PEDESTRIAN PUSH BUTTON

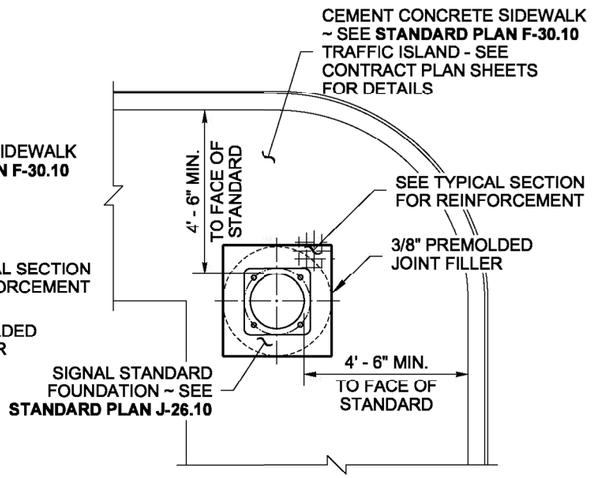


NOTE

* * = APPLIES TO THE SIDE OF THE FOUNDATION WHEN PEDESTRIAN PUSH BUTTON IS TO BE INSTALLED.

FOUNDATION PARTIALLY WITHIN SIDEWALK SECTION





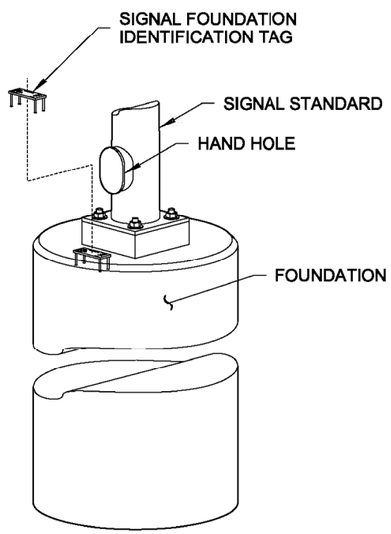
FOUNDATION WITHIN SIDEWALK OR TRAFFIC ISLAND SECTION

NOTE

REFER TO CONTRACT DOCUMENTS FOR PROJECT SPECIFIC INTERSECTION LAYOUTS & TRAFFIC ISLAND MATERIAL TYPE

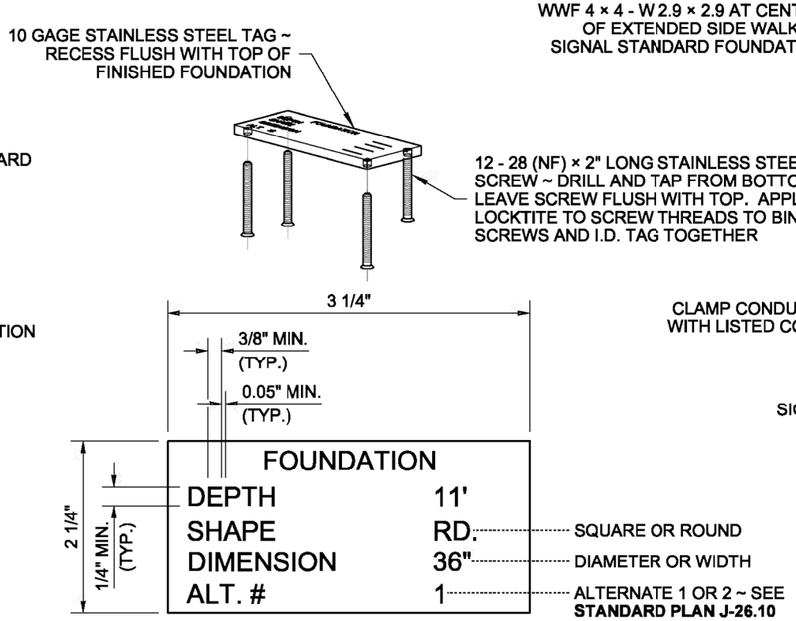
FOUNDATION PARTIALLY WITHIN SIDEWALK SECTION

FOUNDATION OUTSIDE THE SIDEWALK SECTION



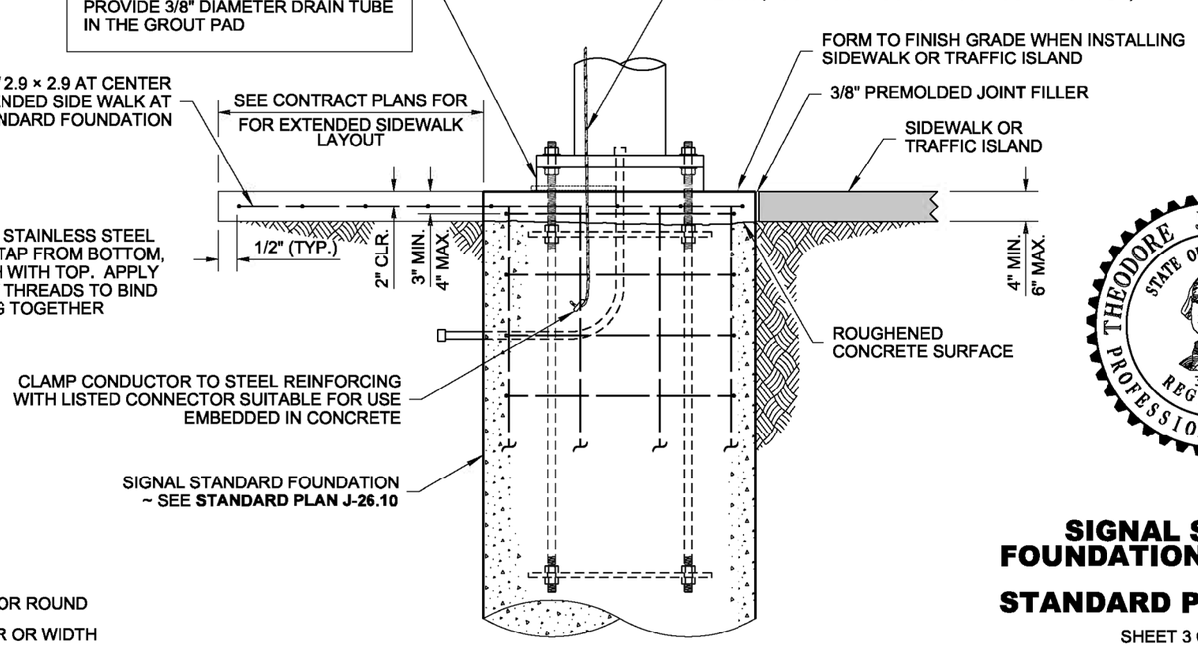
OBLIQUE VIEW

REINFORCING AND ANCHOR BOLTS NOT SHOWN FOR CLARITY (GROUT PAD OPTION SHOWN)



SIGNAL FOUNDATION IDENTIFICATION TAG DETAIL

TEXT SHALL BE ENGRAVED 0.014" DEEP



NOTE

FOUNDATION REINFORCING ONLY PARTIALLY SHOWN FOR CLARITY.
~ SEE **STANDARD PLAN J-26.10** FOR DETAILS NOT SHOWN.

TYPICAL SECTION

THEODORE JOSEPH BAILEY
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PROFESSIONAL ENGINEER

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SIGNAL STANDARD FOUNDATION PLACEMENTS

STANDARD PLAN J-26.15-01

SHEET 3 OF 3 SHEETS

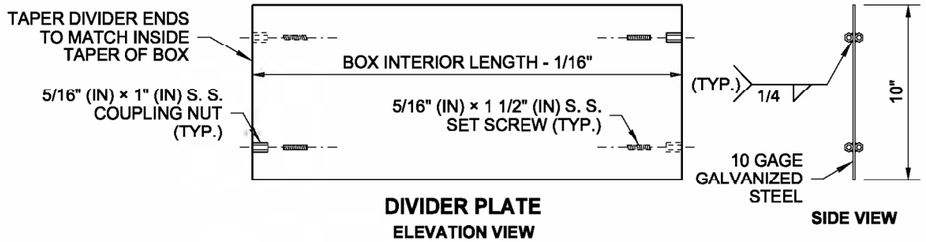
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

05/17/12 — DATE

Washington State Department of Transportation

DRAWN BY: LISA CYFORD



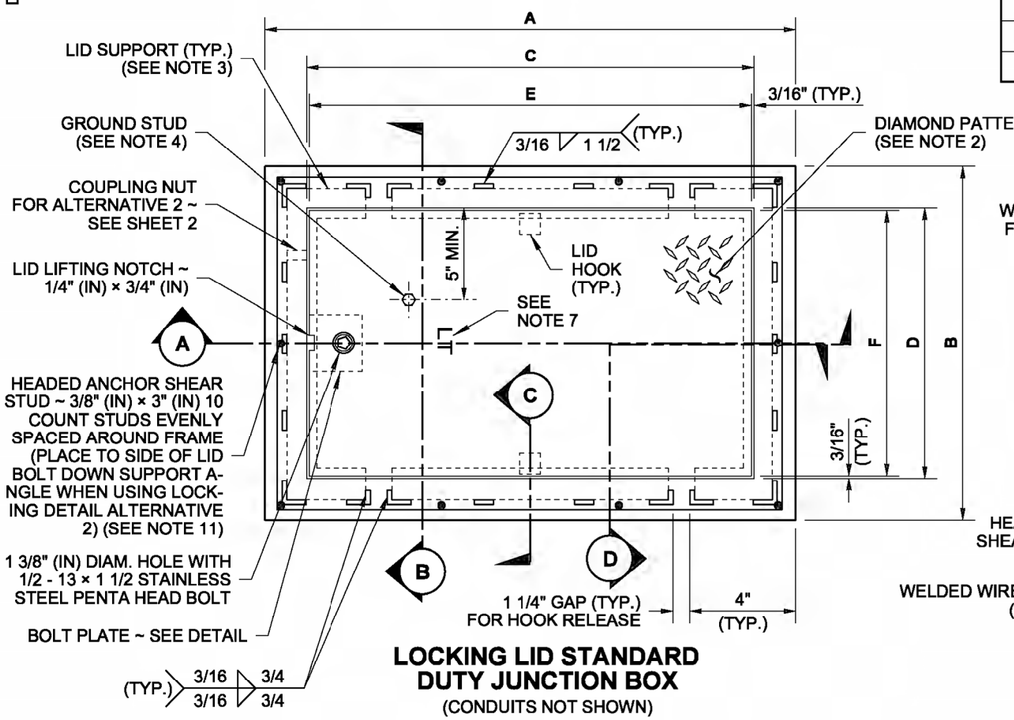
DIVIDER PLATE
ELEVATION VIEW
(FOR TYPE 2 JUNCTION BOX ONLY)

JUNCTION BOX DIMENSION TABLE

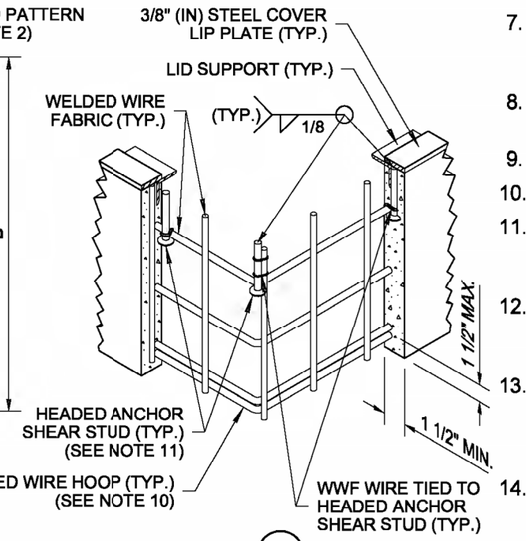
MARK	ITEM	BOX TYPE	
		TYPE 1	TYPE 2
A	OUTSIDE LENGTH OF JUNCTION BOX	22"	33"
B	OUTSIDE WIDTH OF JUNCTION BOX	17"	22 1/2"
C	INSIDE LENGTH OF JUNCTION BOX	18" ~ 19"	28" ~ 29"
D	INSIDE WIDTH OF JUNCTION BOX	13" ~ 14"	17" ~ 18"
E	LID LENGTH	17 5/8"	28 5/8"
F	LID WIDTH	12 5/8"	18 1/8"
	CAPACITY ~ CONDUIT DIAMETER	6"	12"

NOTES

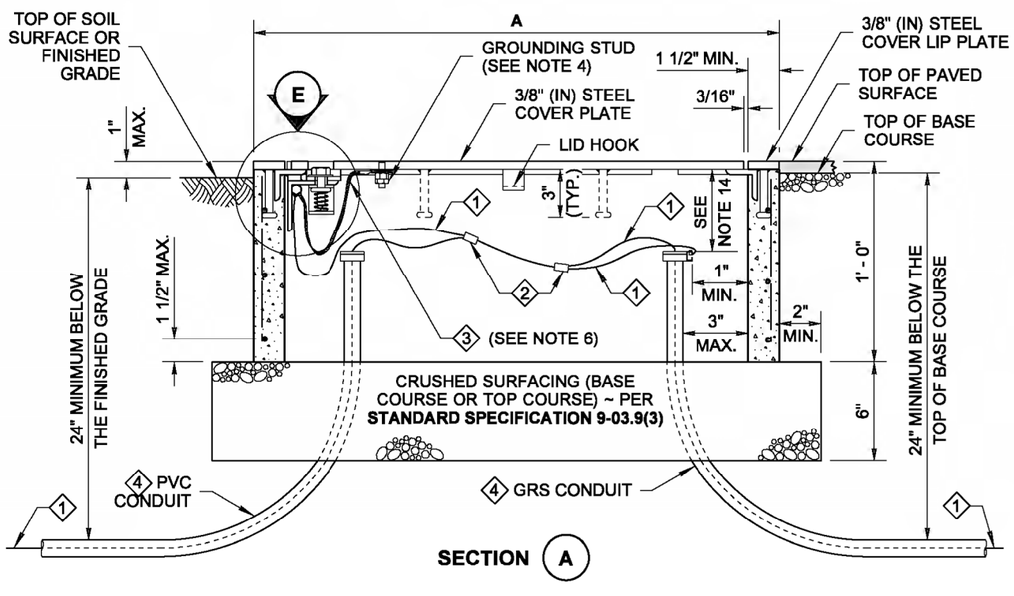
1. All box dimensions are approximate. Exact configurations vary among manufacturers.
2. Minimum lid thickness shown. Junction Boxes installed in sidewalks, walkways, and shared-use paths shall have a slip-resistant coating on the lid and lip cover plate, and shall be installed with the surface flush with and matched to the grade of the sidewalk, walkway, or shared-use path. The non-slip lid shall be identified with permanent markings on the underside, indicating the type of surface treatment (see Contract Documents for details) and the year of manufacture. The permanent marking shall be 1/8" (in) line thickness formed with a mild steel weld bead and shall be placed prior to hot-dip galvanizing.
3. Lid support members shall be 3/16" (in) minimum thick steel C, L, or T shape, welded to the frame.
4. A 1/4-20 NC × 3/4" (in) stainless steel ground stud shall be welded to the bottom of the lid; include (2) stainless steel nuts and (2) stainless steel flat washers.
5. Bolts and nuts shall be liberally coated with anti-seize compound.
6. Equipment Bonding Jumper shall be # 8 AWG min. × 4' (ft) of tinned braided copper.
7. The System Identification letters shall be 1/8" (in) line thickness formed with a mild steel weld bead. See Cover Marking detail. Grind off diamond pattern before forming letters. For System Identification details, see **Standard Specification 9-29.2(4)**.
8. When required in the Contract, provide a 10" (in) x 27 1/2" (in), 10 gage divider plate, complete, with fasteners, in each Type 2 Junction Box where specified.
9. When required in Contract, provide a 12" (in) deep extension for each Type 2 Junction Box where specified.
10. See the **Standard Specifications** for alternative reinforcement and class of concrete.
11. Headed Anchor Shear Studs must be welded to the Steel Cover Lip Plate and wire tied in two places to the vertical Welded Wire Fabric when in contact with each other. Wire tie all other Headed Anchor Shear Studs to the horizontal Welded Wire Fabric.
12. Lid Bolt Down Attachment Tab provides a method of retrofitting by using a mechanical process in lieu of welding. Attachment Tab shown depicts a typical component arrangement; actual configurations of assembly will vary among manufacturers. See approved manufacturers' shop drawings for specifics.
13. Unless otherwise noted in the plans or approved by the Engineer, Junction Boxes, Cable Vaults, and Pull Boxes shall not be placed within the sidewalks, walkways, shared use paths, traveled ways or paved shoulders. All Junction Boxes, Cable Vaults, and Pull Boxes placed within the traveled way or paved shoulders shall be Heavy-Duty.
14. Distance between the top of the conduit and the bottom of the Junction Box lid shall be 6" (in) min. to 8" (in) max. for final grade of new construction only. See **Standard Specification 8-20.3(5)**. Where adjustments are to be made to existing Junction Boxes, or for interim construction stages during the contract, the limits shall be from 6" (in) min. to 10" (in) max. See **Standard Specification 8-20.3(6)**.



LOCKING LID STANDARD DUTY JUNCTION BOX
(CONDUITS NOT SHOWN)



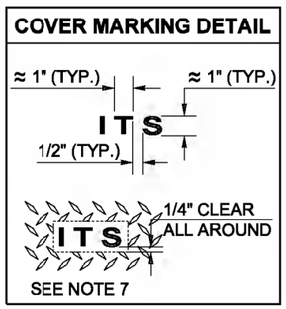
SECTION (D)
PERSPECTIVE VIEW

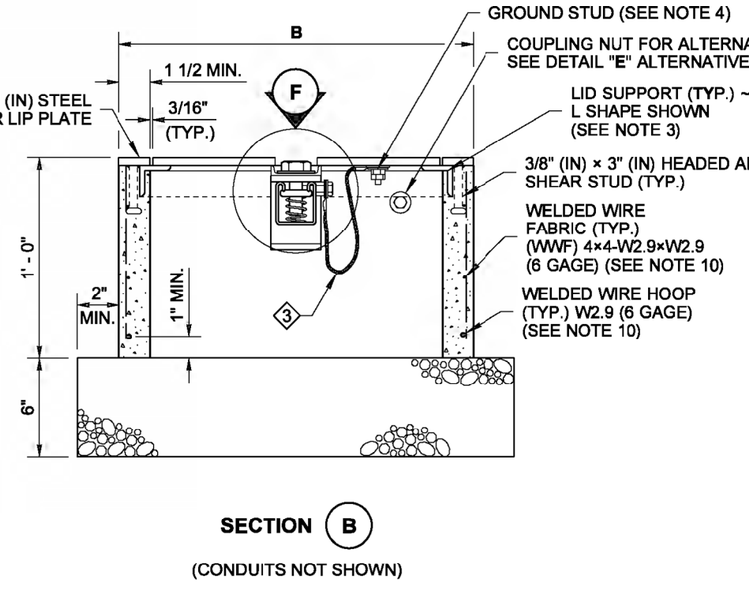


SECTION (A)

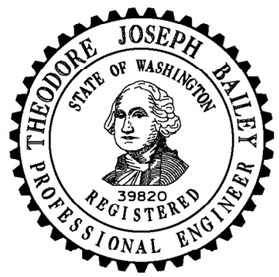
1. Equipment Grounding Conductor
2. Copper Solderless Crimp Connector
3. Equipment Bonding Jumper (See Note 6)
4. See Contract for conduit size and number

COVER MARKING DETAIL





SECTION (B)
(CONDUITS NOT SHOWN)



LOCKING LID STANDARD DUTY JUNCTION BOX TYPES 1 & 2 STANDARD PLAN J-40.10-04

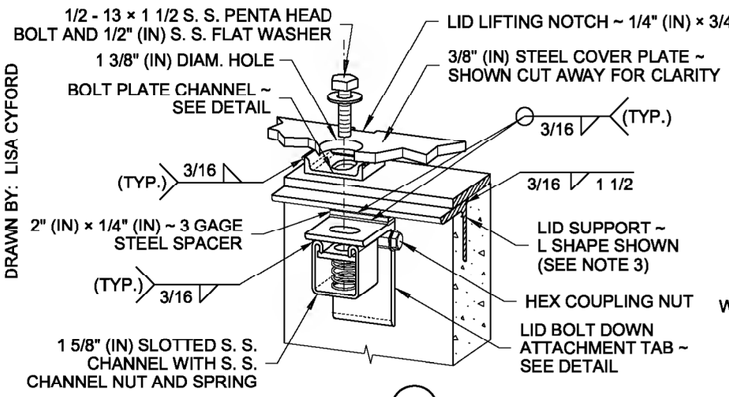
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

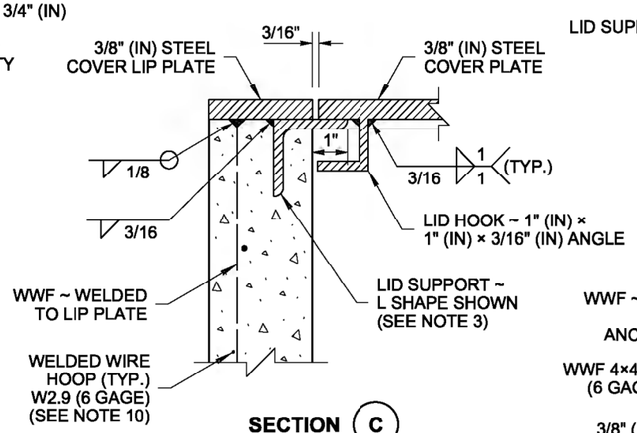
Washington State Department of Transportation

DRAWN BY: LISA CYFORD

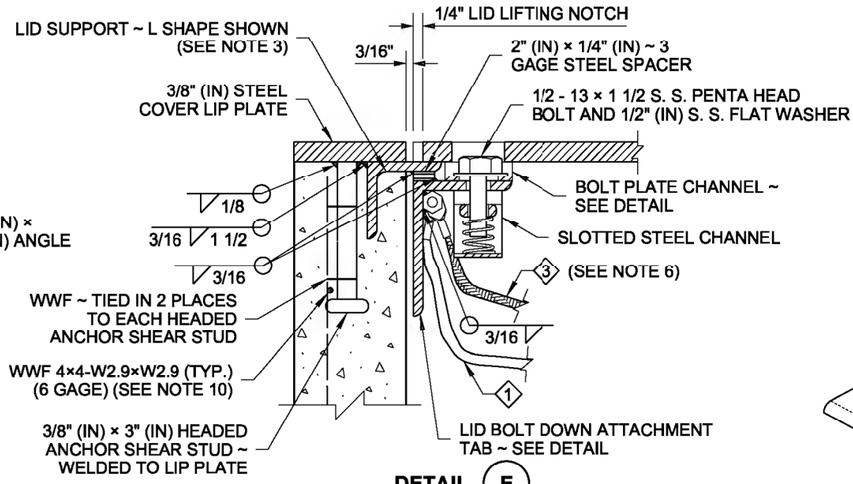


DETAIL (F)

ALTERNATIVE 1 SHOWN
PERSPECTIVE VIEW

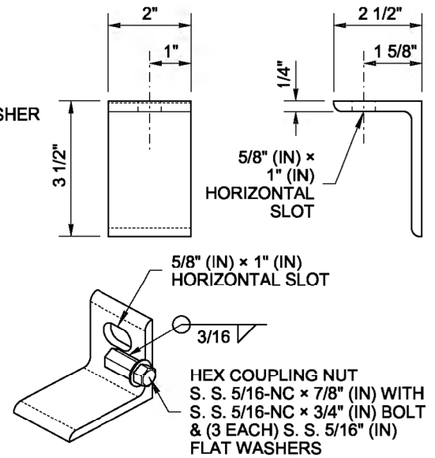


SECTION (C)

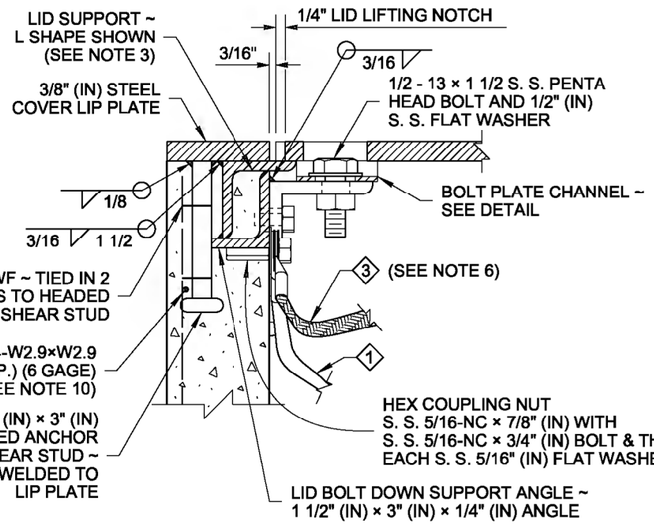


DETAIL (E)

ALTERNATIVE 1 SHOWN

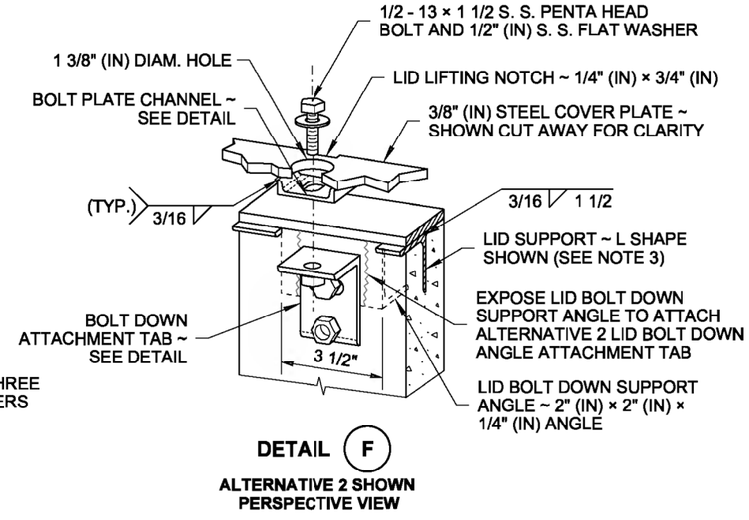


ALTERNATIVE 1
LID BOLT DOWN ATTACHMENT TAB
(SEE NOTE 12)



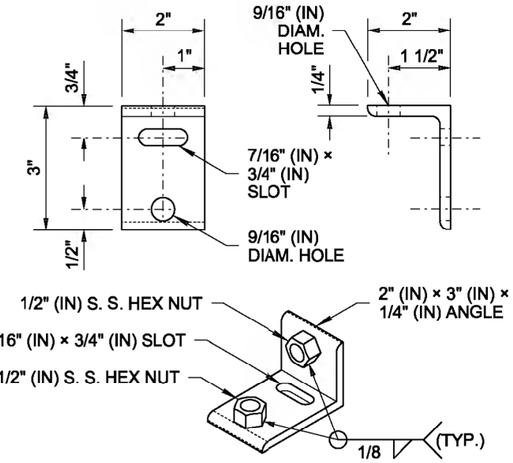
DETAIL (E)

ALTERNATIVE 2 SHOWN

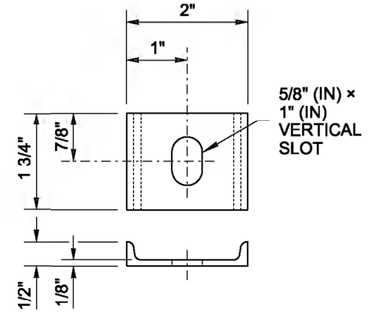


DETAIL (F)

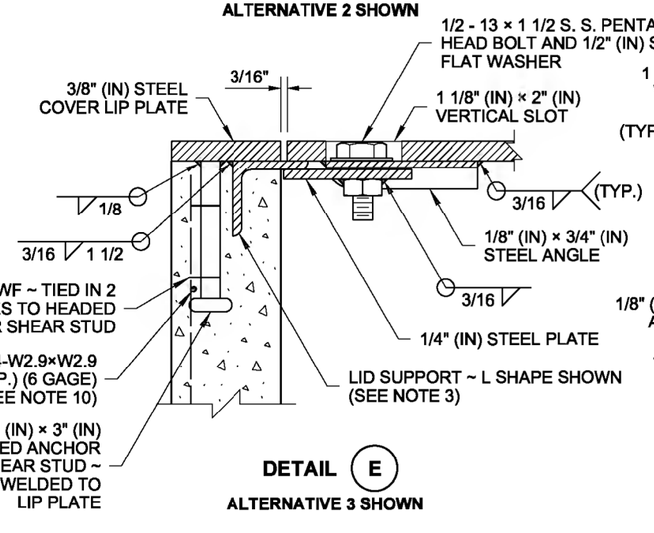
ALTERNATIVE 2 SHOWN
PERSPECTIVE VIEW



ALTERNATIVE 2
LID BOLT DOWN ATTACHMENT TAB
(SEE NOTE 12)

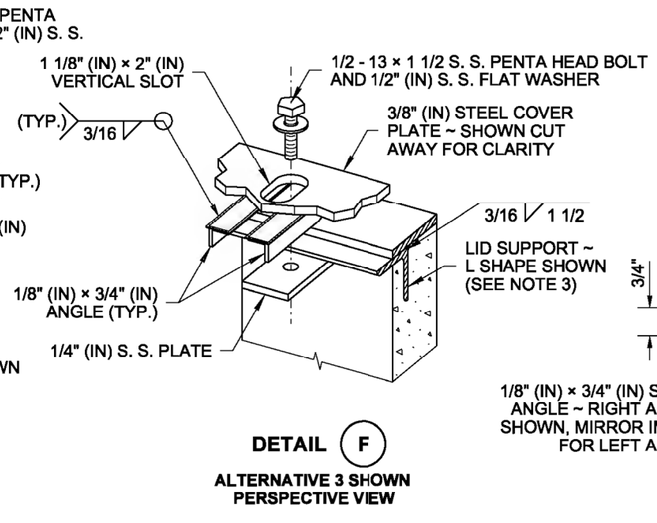


BOLT PLATE CHANNEL



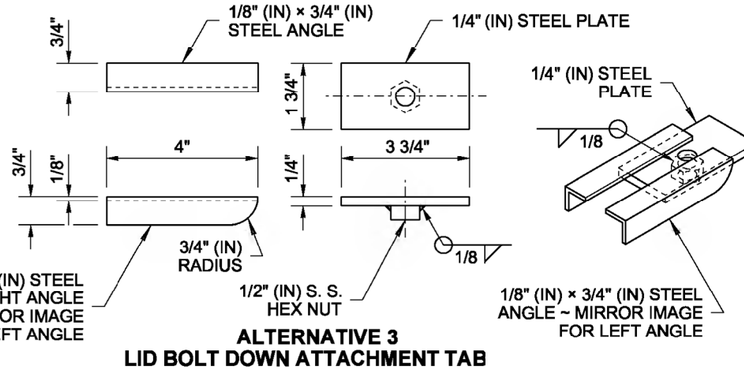
DETAIL (E)

ALTERNATIVE 3 SHOWN



DETAIL (F)

ALTERNATIVE 3 SHOWN
PERSPECTIVE VIEW



ALTERNATIVE 3
LID BOLT DOWN ATTACHMENT TAB
(SEE NOTE 12)

THEODORE JOSEPH BAILEY
STATE OF WASHINGTON
39820
REGISTERED
PROFESSIONAL ENGINEER

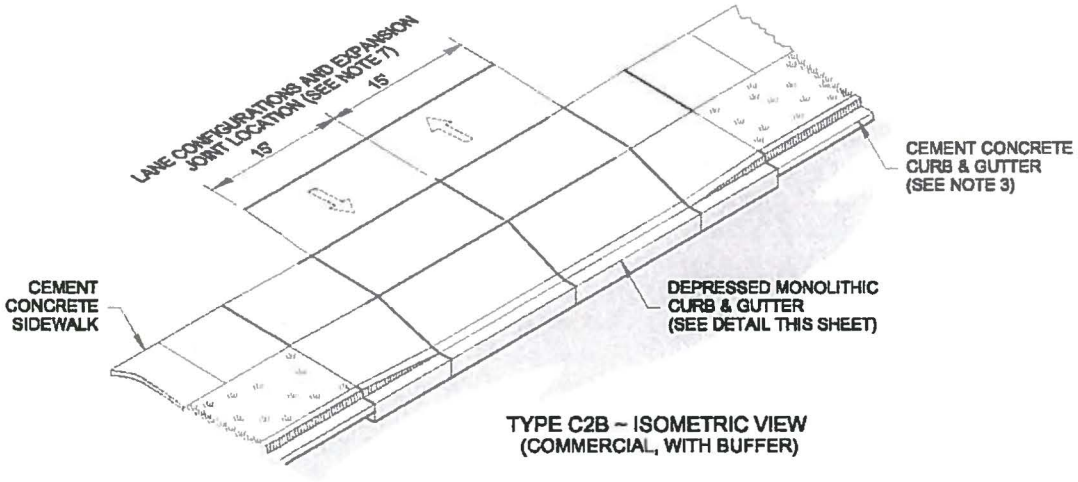
LOCKING LID STANDARD DUTY JUNCTION BOX TYPES 1 & 2 STANDARD PLAN J-40.10-04

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER

Washington State Department of Transportation

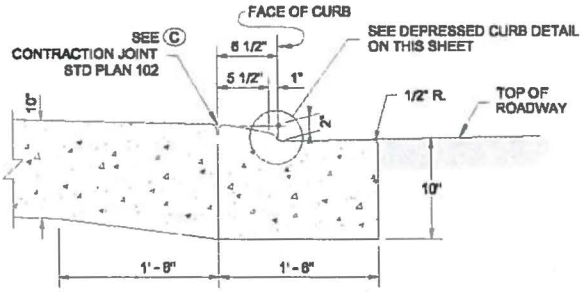


TYPE C2B – ISOMETRIC VIEW
(COMMERCIAL, WITH BUFFER)

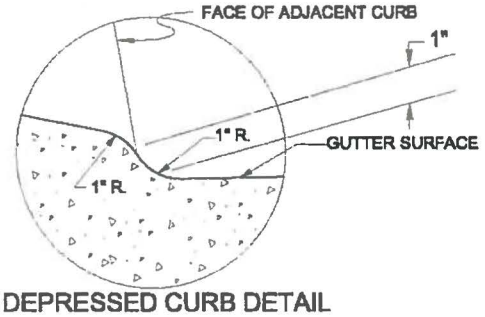
NOTES

1. When a driveway width exceeds 15 feet, construct a full depth expansion joint with 3/8" joint filler along the driveway lane lines (see std. plan 102). Construct expansion joints parallel with the centerline as required at 15' maximum spacing when driveway widths exceed 30'.
2. See std. plan 102 for sidewalk details.
3. Curb and gutter shown, other curb designs may be specified. See std. plan 101 for curb details.
4. Not used.
5. The engineer will design all driveways to include elevations at all points marked with symbol "X". All elevations are at the back of curb top on uphill side.
6. Not used.
7. For Driveway Widths see DRIVEWAY STANDARDS (See NOTE 10). The expansion joints (see std. plan 102) shall be spaced as shown in the corresponding isometric view.
8. Slopes shall comply with sections R303.2.1 or R303.2.2 or R303.2.3 of the Revised Draft Guidelines for Accessible Public Rights-of-Way of November 23, 2005 (PROWAG).
9. Curb returns for any Type C-MAX Driveway may be approved on a case-by-case basis.
10. STREET STANDARDS = Renton Municipal Code (RMC)
    Title IV Development Regulations
    CHAPTER 6 STREET AND UTILITY STANDARDS
    Section 4-6-060 STREET STANDARDS

    DRIVEWAY STANDARDS = Renton Municipal Code (RMC)
    Title IV Development Regulations
    CHAPTER 4
    CITY-WIDE PROPERTY DEVELOPMENT STANDARDS
    Section 4-4-080 PARKING, LOADING AND DRIVEWAY REGULATIONS



NOTE: DRIVEWAY LONGITUDINAL EXPANSION JOINTS SHALL BE FULL DEPTH
DEPRESSED MONOLITHIC CURB & GUTTER DETAIL



DEPRESSED CURB DETAIL
AT RESIDENTIAL OR COMMERCIAL DRIVEWAYS, AND ALLEYS

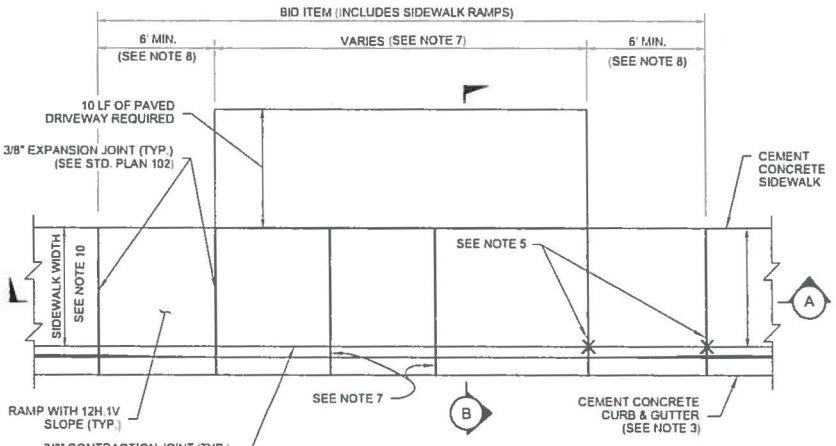
Driveway Example: TYPE C1B
R=Residential, C=Commercial
Number of Lanes,
(MAX=4 Lane Commercial)
B=Buffer (Planting Strip), Blank=No Buffer

PUBLIC WORKS DEPARTMENT

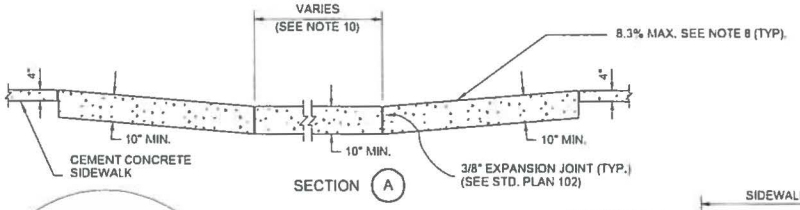
CEMENT CONCRETE DRIVEWAY ENTRANCES - NOTES AND DETAILS

STD. PLAN – 104.2

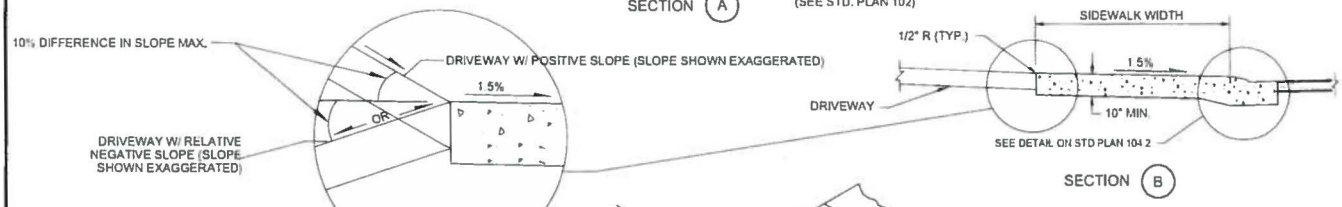
APPROVED: Gregg Zimmerman 11/24/14
DATE



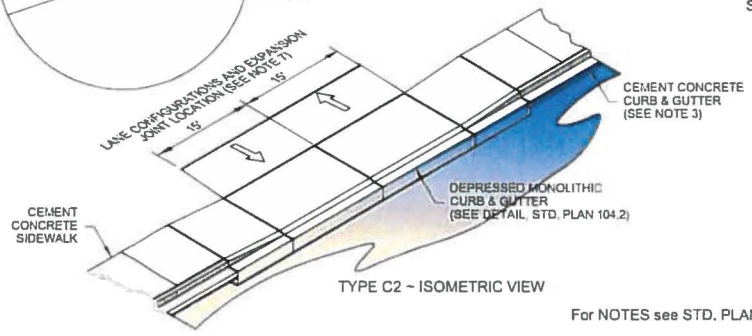
PLAN VIEW
(TYPE C3 SHOWN, C1 & C2 & C-MAX SIMILAR)
(SEE NOTE 9)



SECTION (A)



SECTION (B)



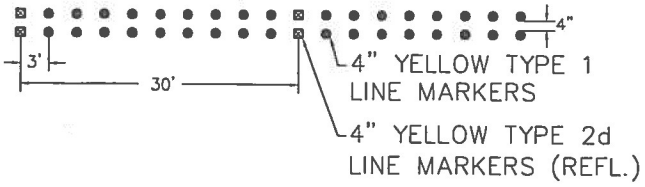
TYPE C2 ~ ISOMETRIC VIEW

For NOTES see STD. PLAN 104.2

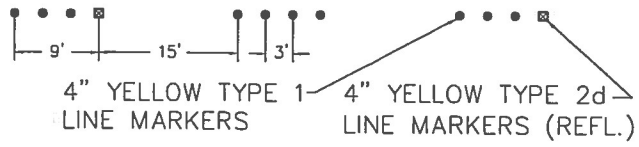
CITY OF RENTON PUBLIC WORKS DEPARTMENT	**CEMENT CONCRETE DRIVEWAY ENTRANCE - TYPES C1, C2, C3, and C-MAX**	**STD. PLAN – 104** APPROVED: Gregg Zimmerman 11/21/14 DATE Gregg Zimmerman, Public Works Administrator

DocuSign Envelope ID: F7656CA0-3426-46F1-A0D4-9EEA931EF6A2

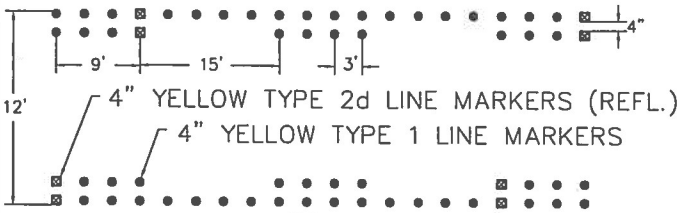
DOUBLE YELLOW CENTER LINES



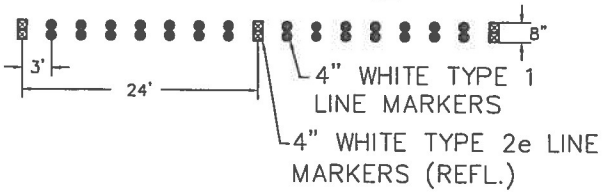
SINGLE SKIP YELLOW CENTER LINES



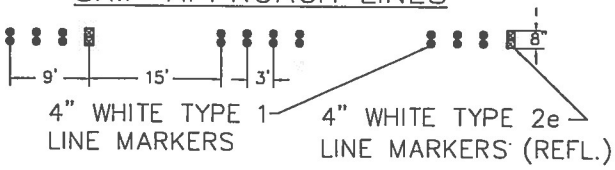
TWO-WAY LEFT TURN LANES



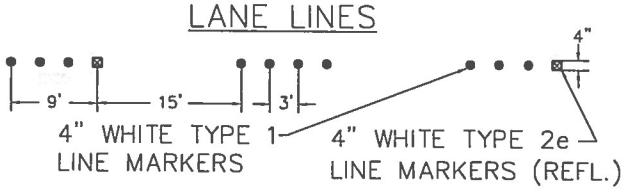
APPROACH LINES



SKIP APPROACH LINES



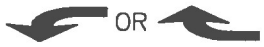
LANE LINES



2-WAY LEFT TURN ARROW SPACING

SPEED LIMIT 25 MPH ----- 200' O.C.
SPEED LIMIT 30-35 MPH -- 250' O.C.
SPEED LIMIT 40-45 MPH -- 300' O.C.

LEFT AND RIGHT TURN ARROW SPACING

APPROACH LINE LENGTH — ARROW LOCATIONS  OR

20'-50'	1 ARROW (20' BACK FROM CROSSWALK OR STOP BAR)
50'-125'	2 ARROWS (20' BACK & END OF APPROACH LINE)
125'-300'	3 ARROWS (20' BACK, MIDWAY & END OF LINE)
OVER 300'	ARROWS AT 100' INTERVALS

RAISED PAVEMENT MARKER (RPM) TYPES

RPM TYPE 2 RAISED FACE COLORS	
RPM	COLOR
TYPE 2a	WHITE AND RED
TYPE 2b	SEE COR STD WATER PLANS
TYPE 2c	YELLOW AND RED
TYPE 2d	YELLOW AND YELLOW
TYPE 2e	WHITE - ONE SIDE ONLY
TYPE 2f	YELLOW - ONE SIDE ONLY

RPM SIZES		
RPM	WIDTH/DIAMETER	HEIGHT
TYPE 1	±4"	±0.7"
TYPE 2	±4"	±0.7"

NOTE: RPM MATERIAL SPECIFICATIONS SHALL BE PER WSDOT STANDARD SPECIFICATIONS SECTION 9-21 RAISED PAVEMENT MARKERS (RPM)

CITY OF RENTON — PUBLIC WORKS DEPARTMENT

CHANNELIZATION MARKERS DETAIL

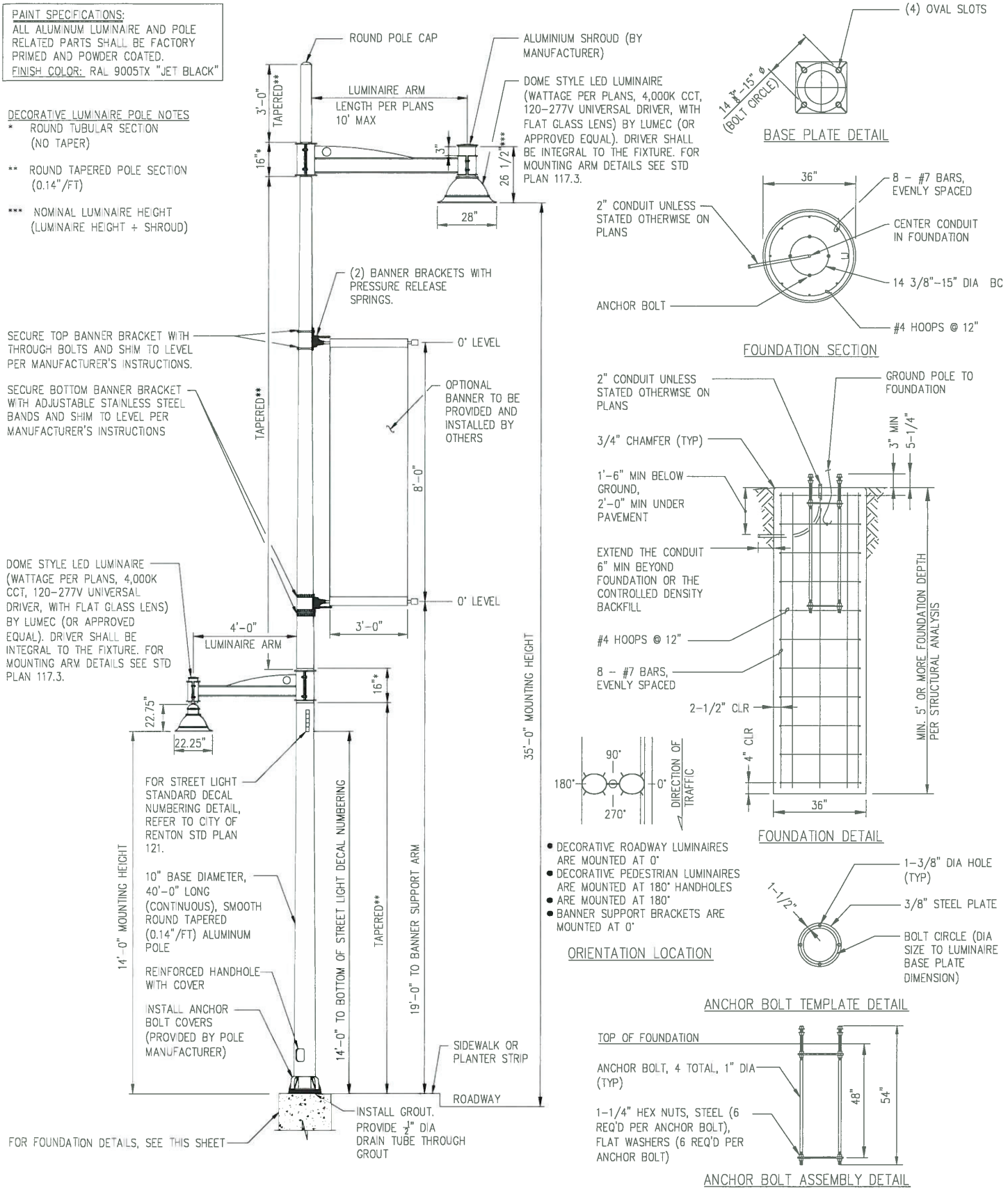
STD. PLAN- 109

APPROVED: DocuSigned by: Gregg Zimmerman 6C74AD07BEBB45E...

DATE

PAINT SPECIFICATIONS:
ALL ALUMINUM LUMINAIRE AND POLE RELATED PARTS SHALL BE FACTORY PRIMED AND POWDER COATED.
FINISH COLOR: RAL 9005TX "JET BLACK"

DECORATIVE LUMINAIRE POLE NOTES
* ROUND TUBULAR SECTION (NO TAPER)
** ROUND TAPERED POLE SECTION (0.14"/FT)
*** NOMINAL LUMINAIRE HEIGHT (LUMINAIRE HEIGHT + SHROUD)



BASE PLATE DETAIL

FOUNDATION SECTION

FOUNDATION DETAIL

- DECORATIVE ROADWAY LUMINAIRES ARE MOUNTED AT 0°
- DECORATIVE PEDESTRIAN LUMINAIRES ARE MOUNTED AT 180° HANDHOLES
- ARE MOUNTED AT 180°
- BANNER SUPPORT BRACKETS ARE MOUNTED AT 0°

ORIENTATION LOCATION

ANCHOR BOLT TEMPLATE DETAIL

ANCHOR BOLT ASSEMBLY DETAIL

POLE ELEVATION

FOUNDATION DETAILS

NOTE: NO SONATUBE ALLOWED FOR FOUNDATION CONSTRUCTION

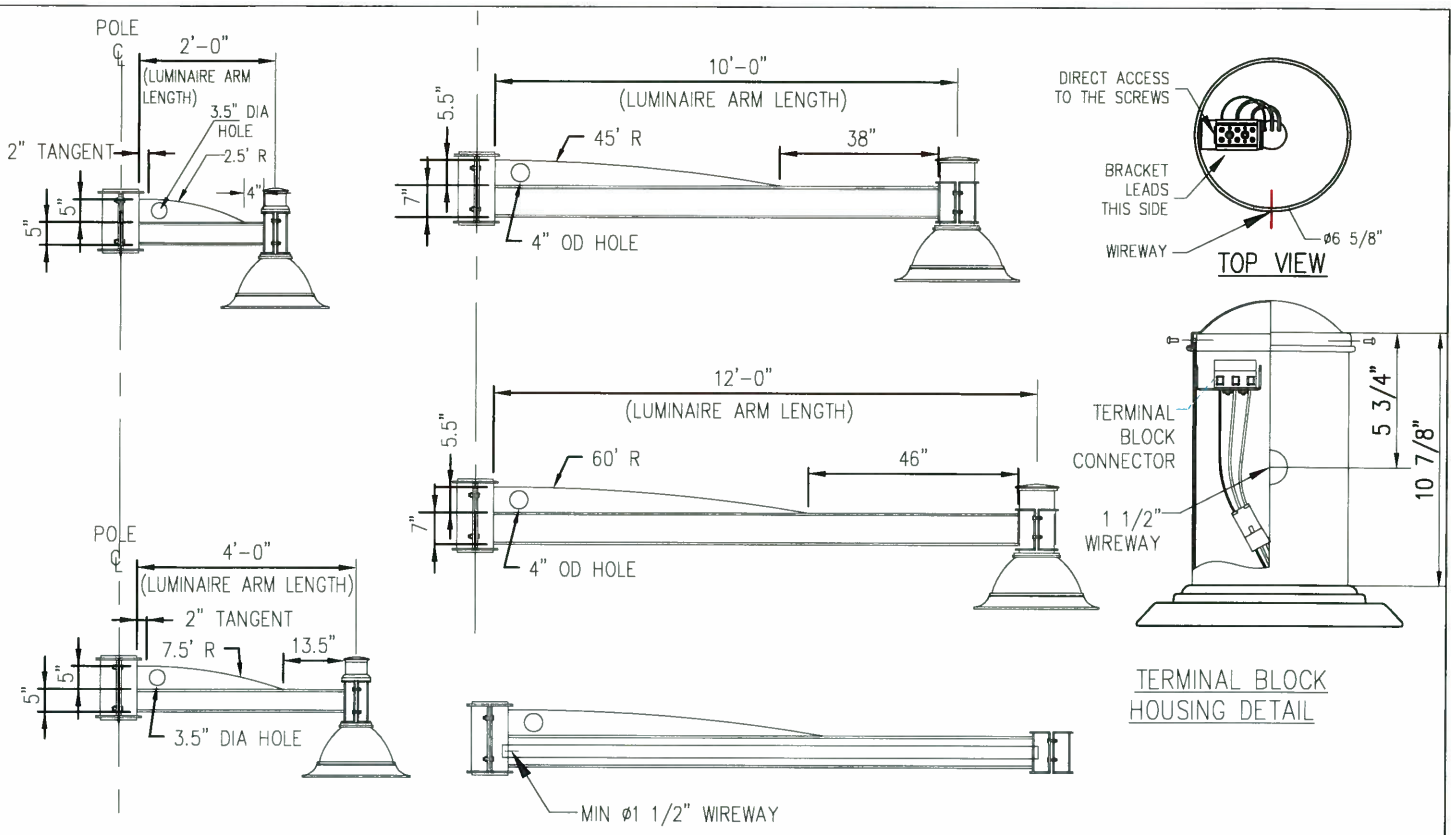
CITY OF RENTON

PUBLIC WORKS DEPARTMENT

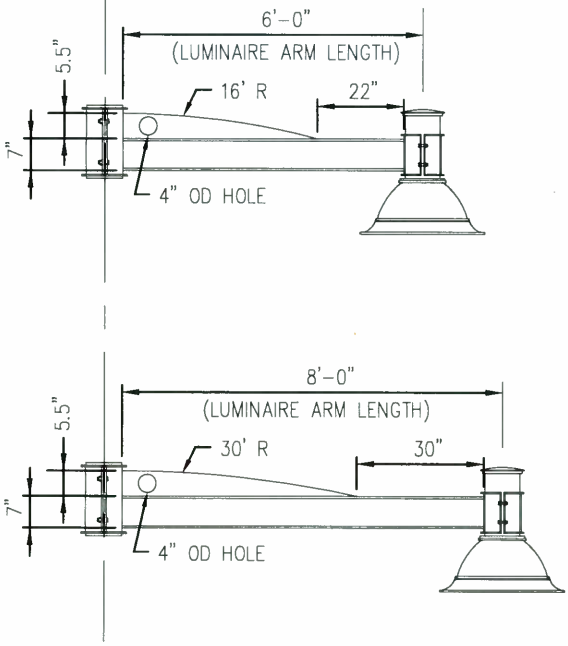
ARTERIAL STREET DECORATIVE LUMINAIRE POLE DETAILS

STD. PLAN– 117.1

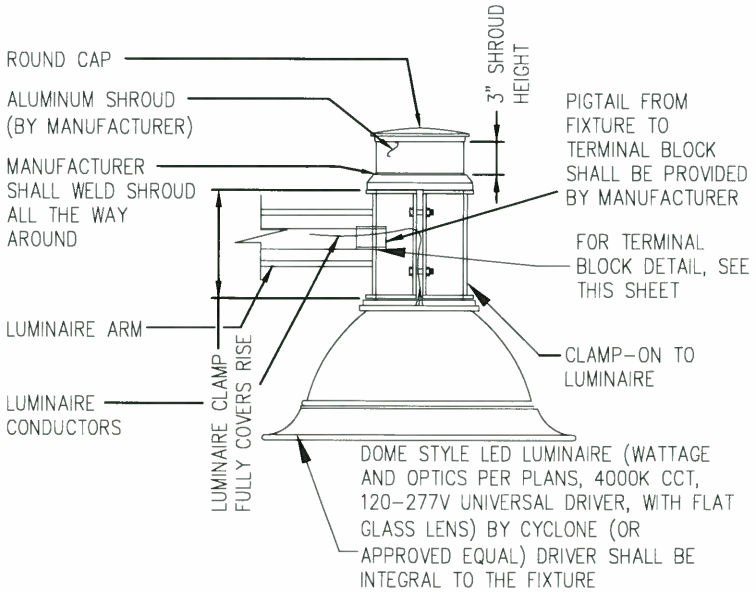
APPROVED: Doug Zimmerman 5/4/12
DATE



BRACKET SIDE VIEW DETAILS



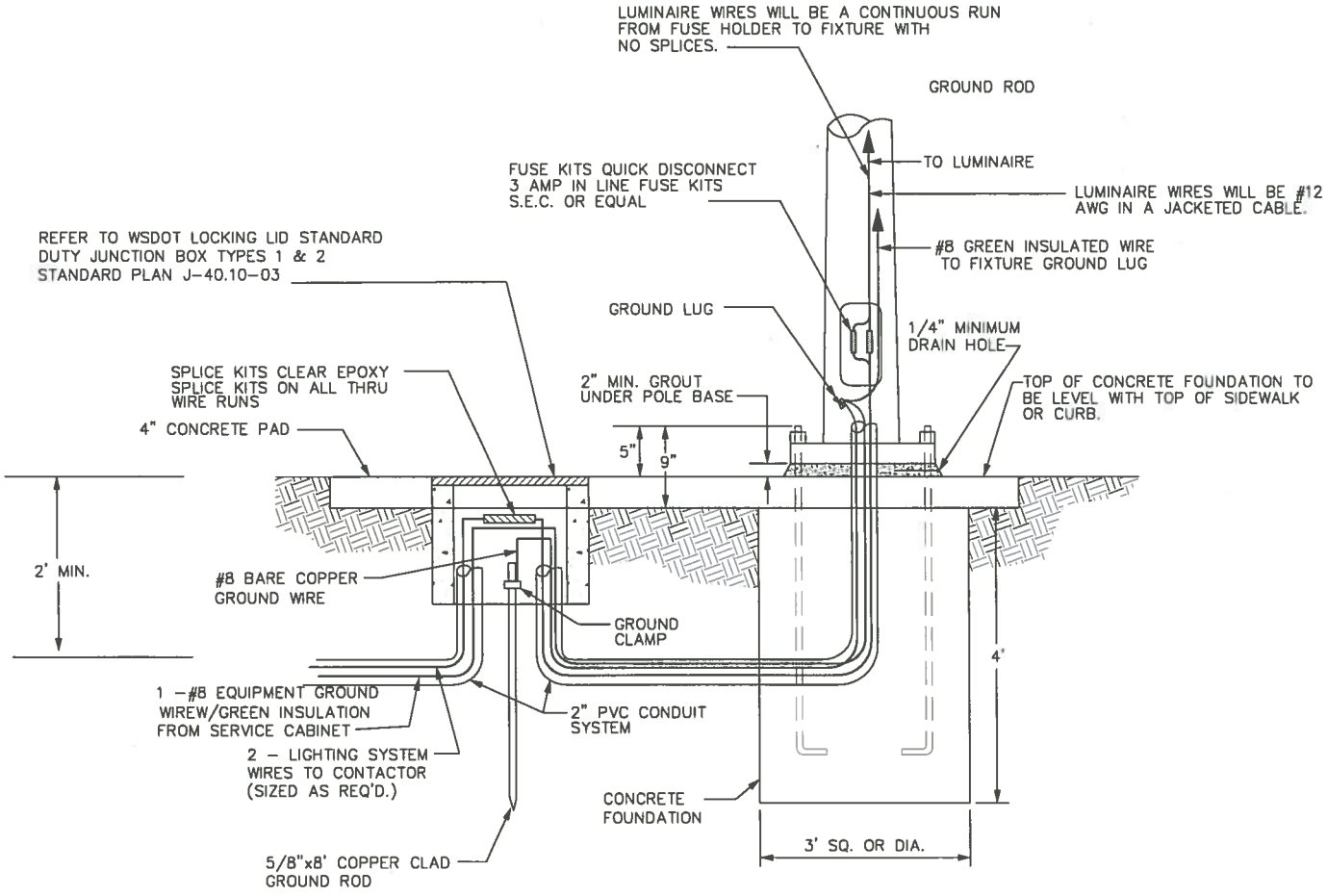
LUMINAIRE ARM DETAILS



DECORATIVE LUMINAIRE

LUMINAIRE ARM MOUNTING BRACKET DETAILS

CITY OF RENTON PUBLIC WORKS DEPARTMENT	LUMINAIRE AND MOUNTING BRACKET DETAIL	STD. PLAN- 117.3 APPROVED: Gregg Zimmerman 5/9/11 DATE

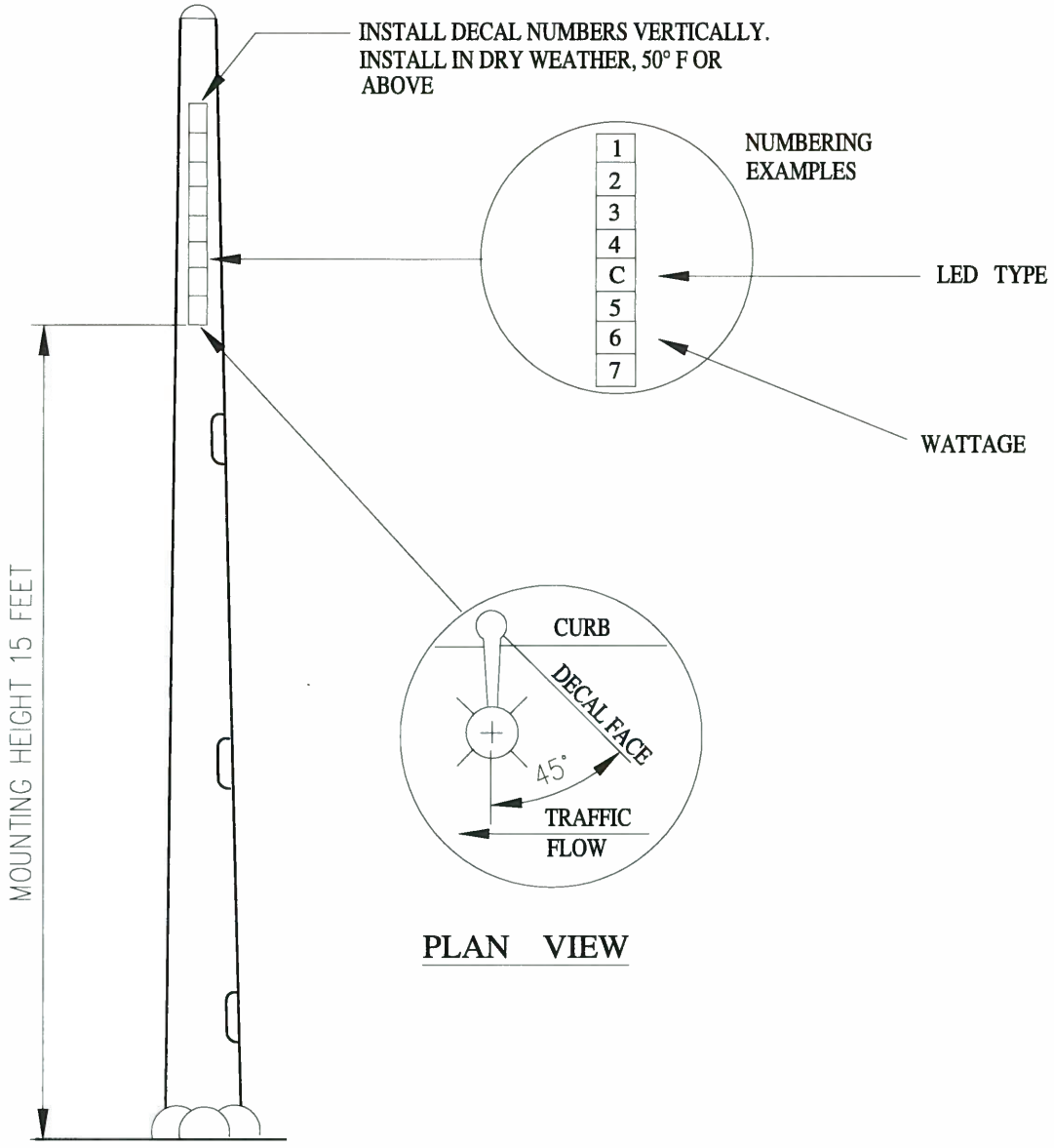


NOTES:

1. EQUIPMENT GROUND WIRE & BARE WIRE SHALL BE SECURELY FASTENED TO THE GROUND LUG INSIDE THE POLE HANDHOLE. ALL BONDING & GROUNDING CONNECTIONS SHALL REMAIN ACCESSIBLE FOR INSPECTION AND MAINTENANCE.

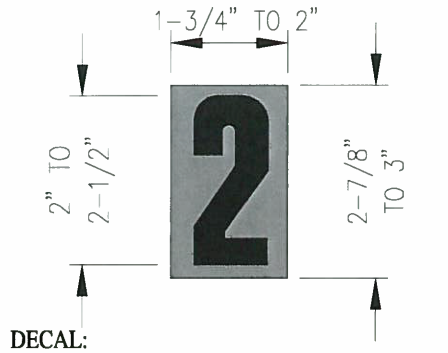
2. IF THE FIXTURE MANUFACTURER HAS MADE PROVISION FOR THE ATTACHMENT OF A GROUND WIRE A GREEN INSULATED WIRE OF THE SAME SIZE SHALL BE RUN FROM THE FIXTURE TO THE GROUND LUG INSIDE THE POLE HANDHOLE. IF THE FIXTURE MANUFACTURER HAS A GROUND LUG A #8 GREEN INSULATED WIRE SHALL BE RUN FROM THE FIXTURE GROUND LUG TO THE POLE GROUND LUG.

CITY OF RENTON PUBLIC WORKS DEPARTMENT	**TYPICAL LIGHTING UNDERGROUND SYSTEM**	**STD. PLAN – 119** APPROVED: GZ DATE 1/26/15



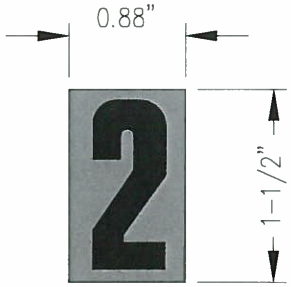
PLAN VIEW

FOR STD PLAN 117.1



DECAL:
REFLECTORIZED GOTHIC GOLD OR WHITE
LEGEND ON BLACK BACKGROUND

FOR STD PLAN 116.1,117.2, 117.4



CITY OF RENTON — PUBLIC WORKS DEPARTMENT	STREET LIGHT STANDARD DECAL NUMBERING SYSTEM	STD. PLAN– 121 APPROVED: Gregg Zimmerman 5/8/17 DATE

CITY OF RENTON

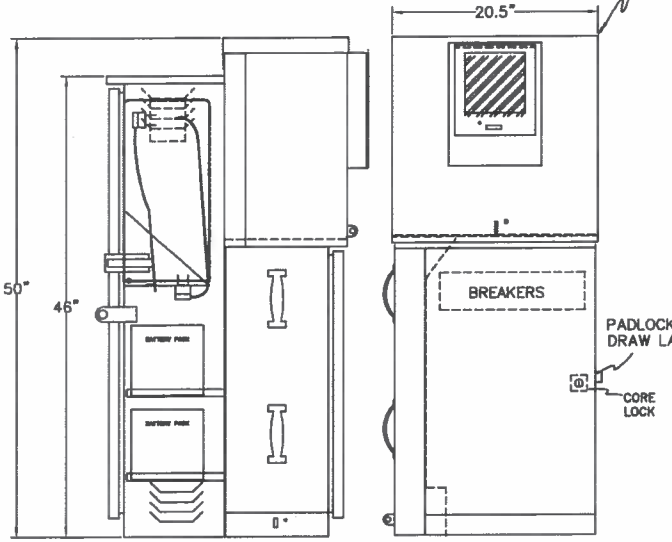
PUBLIC WORKS DEPARTMENT

SERVICE CAB W/ BBS ATTACHED FOR SIGNALIZED INTERSECTIONS

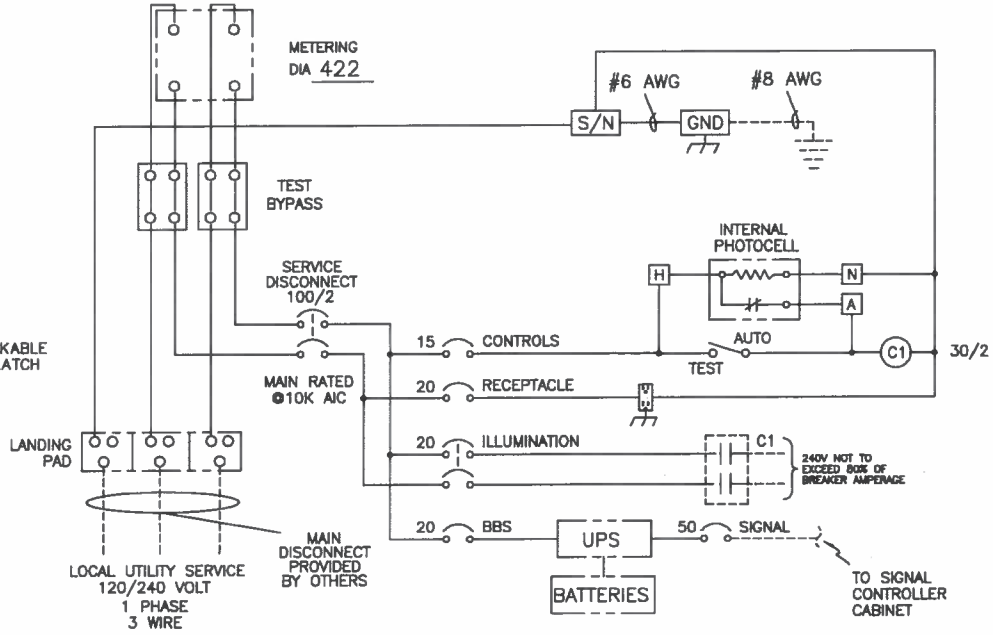
STD. PLAN - 122.2

APPROVED: [signature] 3/16/15 DATE

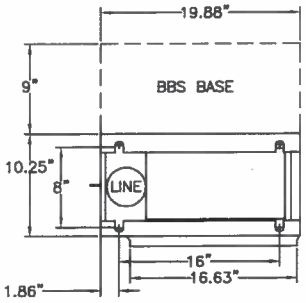
LABEL THE STREET FACING SIDE OF THE CONTACTOR CABINET WITH ITS ADRESS NUMBER (W/O STREET NAME)USING AN ENGRAVED PHENOLIC NAMEPLATE WITH 2" HIGH BLACK LETTERING ON WHITE BACKGROUND. ATTACH NAMEPLATE WITH ADHESIVE



FRONT VIEW



BBS W/OPTIONS
HEATER
GEN SET
CORE LOCK

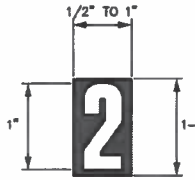


BASE PLAN

NOTE: LOAD CURRENT FOR ALL BREAKER NOT TO EXCEED 80% OF BREAKER AMPERAGE

ENCLOSURE CONSTRUCTION NOTES

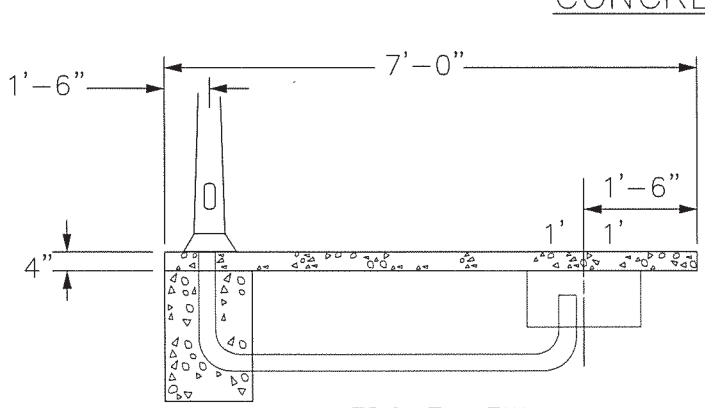
1. EXTERIOR, 1/8" ALUMINUM, AND INTERIOR 14 GA COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION WILL BE NEMA 3R, RAINTIGHT.
3. ALL NUTS, BOLTS AND SCREWS WILL BE STAINLESS STEEL.
4. NUTS, BOLTS & SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
5. NAMEPLATES WILL BE PROVIDED AS REQUIRED.
6. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA AND UL 508A STANDARDS.
9. ANODIZE AFTER FABRICATION



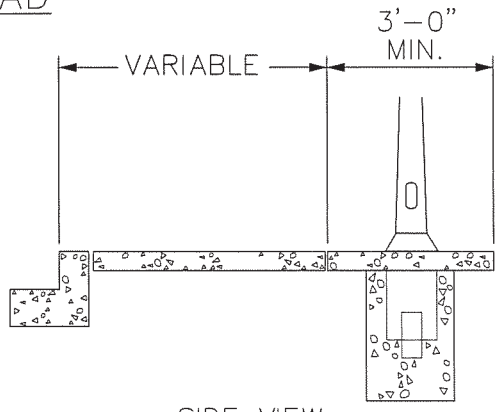
DECAL:

REFLECTORIZED GOTHIC GOLD OR WHITE LEGEND ON BLACK BACKGROUND

TYPICAL LIGHT BASE AND JUNCTION BOX CONCRETE PAD

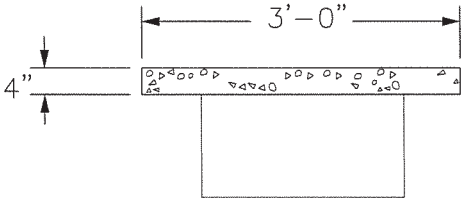


FRONT VIEW

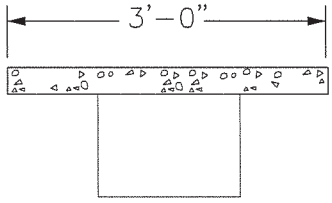


SIDE VIEW

TYPICAL JUNCTION BOX 'B' CONCRETE PAD

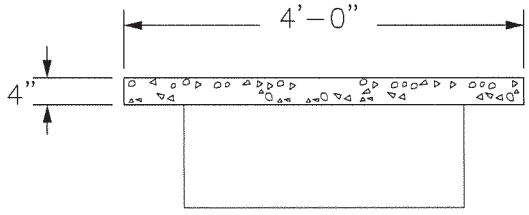


FRONT VIEW

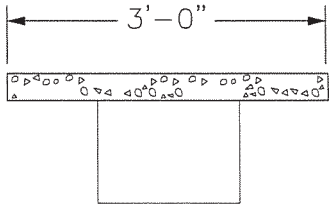


SIDE VIEW

TYPICAL JUNCTION BOX 'C' CONCRETE PAD

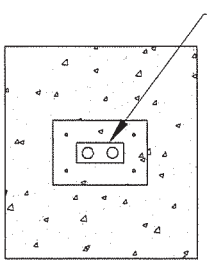


FRONT VIEW

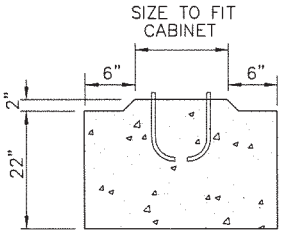


SIDE VIEW

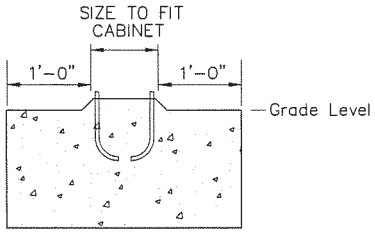
CITY OF RENTON PUBLIC WORKS DEPARTMENT	**TYPICAL CONCRETE PAD DETAILS**	**STD. PLAN – 125** APPROVED: Doug Zimmer 6/11/13 DATE



PLAN VIEW

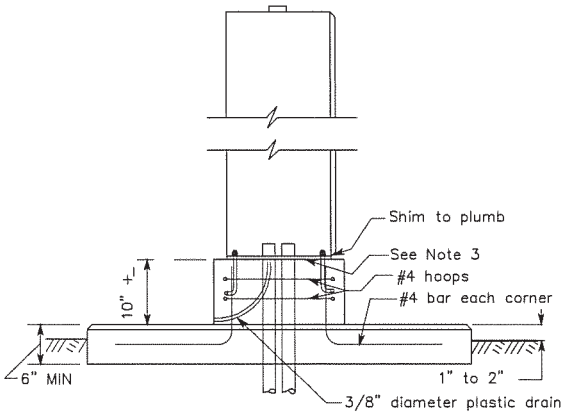


FRONT VIEW

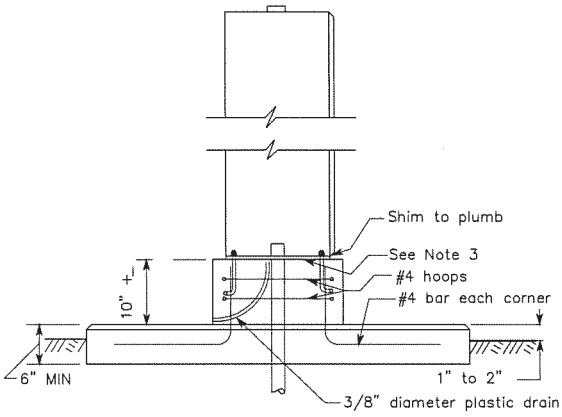


SIDE VIEW

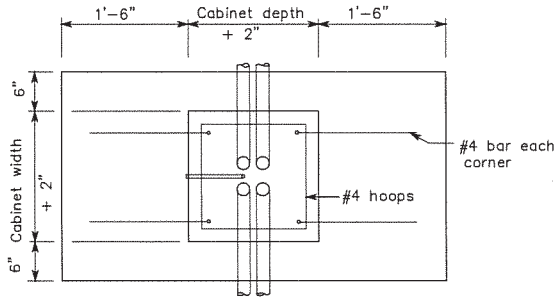
STREET LIGHT CONTACTOR FOUNDATION



SIDE VIEW

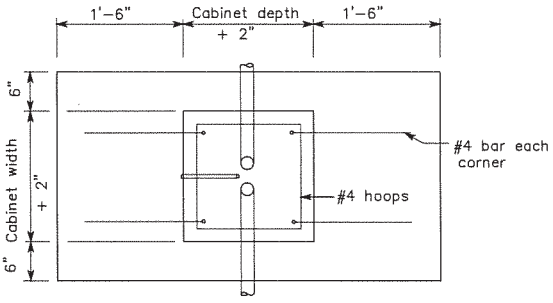


SIDE VIEW



PLAN VIEW

PAD MOUNT
CONTROLLER CABINET FOUNDATION



PLAN VIEW

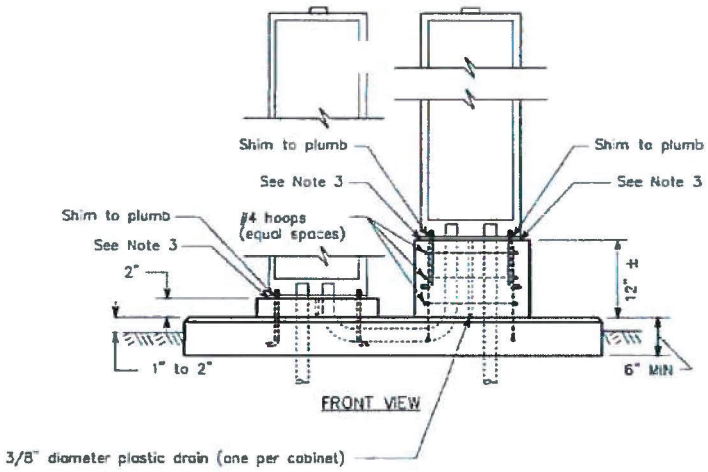
PAD MOUNT
BATTERY BACKUP SYSTEM (BBS) FOUNDATION

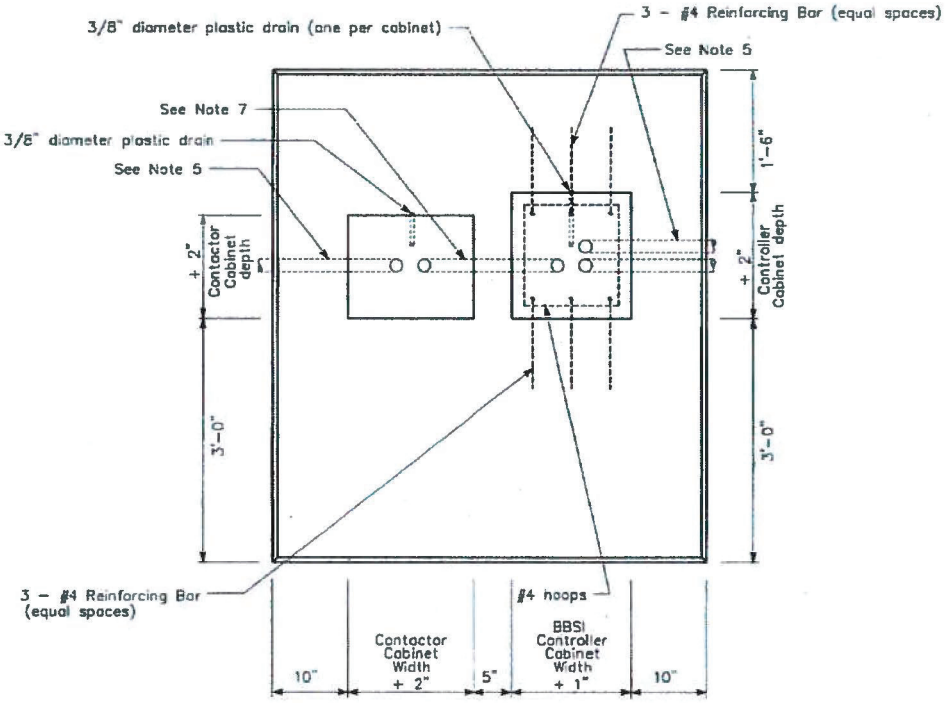
For NOTES see Std. Plan 126.2

CITY OF RENTON PUBLIC WORKS DEPARTMENT	**CABINET FOUNDATION DETAILS**	**STD. PLAN – 126.1** APPROVED: Gregg Zimmerman 6/11/12 DATE

NOTES

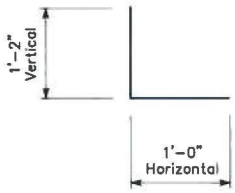
1. Where foundation pad is located within a sidewalk, construct pad top flush with sidewalk grade, omitting chamfer where top and sidewalk abut. Mount top shall be finished by a concrete contractor and shall meet the requirements of section 8-14.3 in the WSDOT Standard Specifications.
2. Pad mount design is typical.
3. Place a silicone seal between the foundation and cabinet.
4. Anchor bolts and their spacing to be supplied by cabinet manufacturer and submitted to the engineer for approval.
5. Conduit sizes/quantities for the controller and contactor cabinets shall be installed per the contract plans, plus one 2" spare capped out past the foundation.
6. Concrete shall be Class 3000.
7. 2" conduit shall be placed from the contactor to the combined controller/BBS cabinet.
8. Each cabinet shall have a ⅜" diameter plastic drain pipe.
9. Locate conduits centrally within the cabinets.
10. When all three cabinets are to be installed and space allows, a combined foundation shall be used.





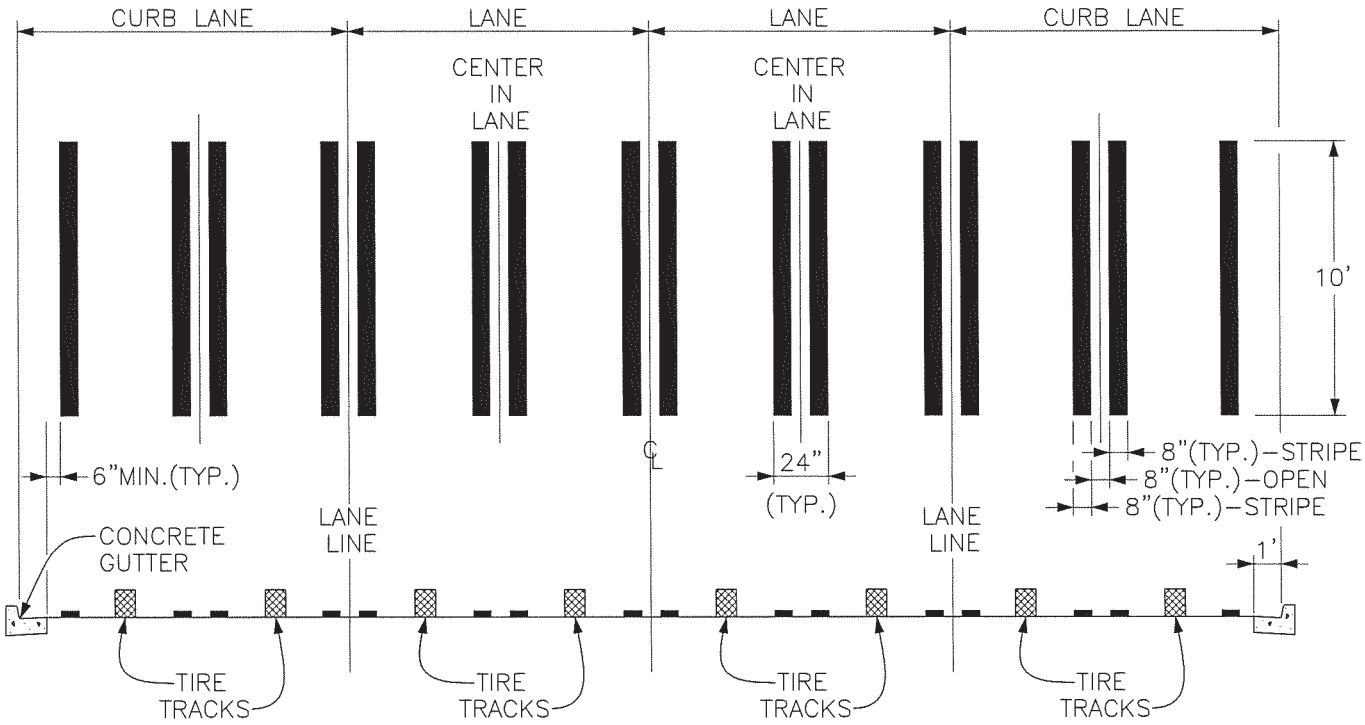
PLAN VIEW

COMBINED CONTROLLER/BBS/CONTACTOR FOUNDATION



COMBINED FOUNDATION
REINF. BAR DIAGRAM
6 Pieces

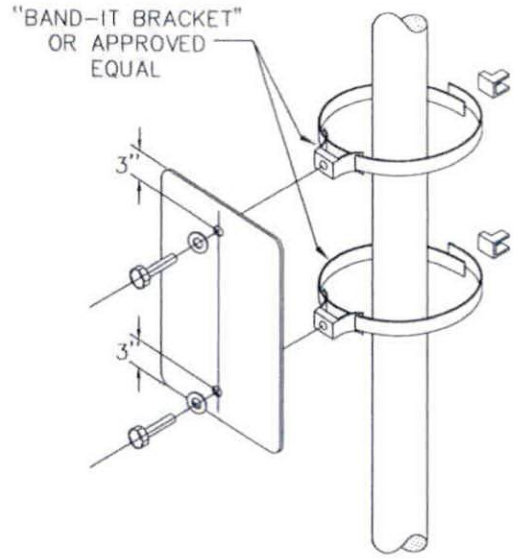
CITY OF RENTON — PUBLIC WORKS DEPARTMENT	CABINET FOUNDATION DETAILS	**STD. PLAN – 126.2**
		APPROVED: Craig Simmons 2/4/14 DATE



* TYPICAL 4-LANE ROADWAY CONFIGURATION

* NOTE: FOR ROADWAYS WITH MORE OR LESS LANES, THE SAME CONFIGURATION APPLIES. KEEPING THE THERMOPLASTIC/PAINTED BARS CENTERED ON THE LANE LINES AND IN THE CENTER OF TRAVELLED PORTION OF THE LANE TO MINIMIZE THE WEAR ON THE THERMOPLASTIC/PAINT.

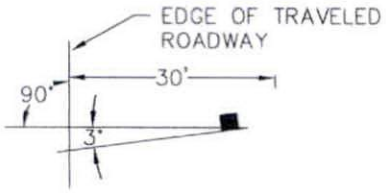
CITY OF RENTON PUBLIC WORKS DEPARTMENT	**THERMOPLASTIC/PAINTED CROSSWALK**	**STD. PLAN - 127** APPROVED: Dacia Zimmerman 6/11/12 DATE



MOUNTING ON EXISTING METAL POLE OR LUMINAIRE

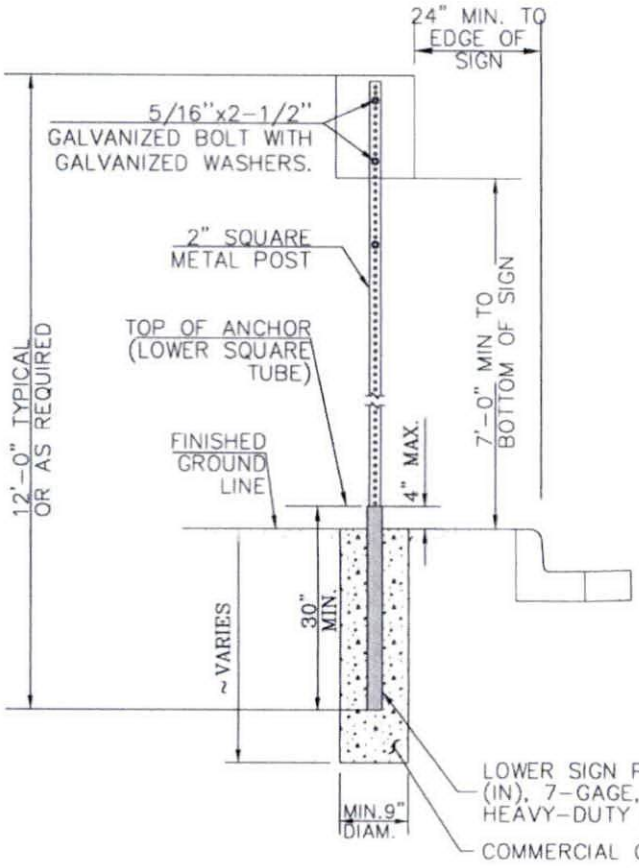
NOTES

1. DIMENSIONS FOR THE PARTS USED TO ASSEMBLE THE BASE CONNECTIONS ARE INTENTIONALLY NOT SHOWN. BASE CONNECTIONS ARE PATENTED, MANUFACTURED PRODUCTS THAT ARE IN COMPLIANCE WITH NCHRP 350 CRASH TEST CRITERIA. THE BASE CONNECTION DETAILS ARE SHOWN ON THIS PLAN ONLY TO ILLUSTRATE HOW THE PARTS ARE ASSEMBLED.
2. A 2" (IN) POST WITH A 2 1/4" (IN) PSST ANCHOR OR A 2 1/4" (IN) POST WITH A 2 1/2" (IN) PSST ANCHOR MAY BE SUBSTITUTED. SEE CONTRACT PLANS.
3. PERFORATED SQUARE STEEL POST SHALL MEET THE REQUIREMENTS OF WSDOT STANDARD SPECIFICATION 9-06.
4. USE ONLY BASE CONNECTION MANUFACTURER SUPPLIED HARDWARE THAT MEETS THE REQUIREMENTS OF WSDOT STANDARD SPECIFICATIONS 9-06 AND 9-28.

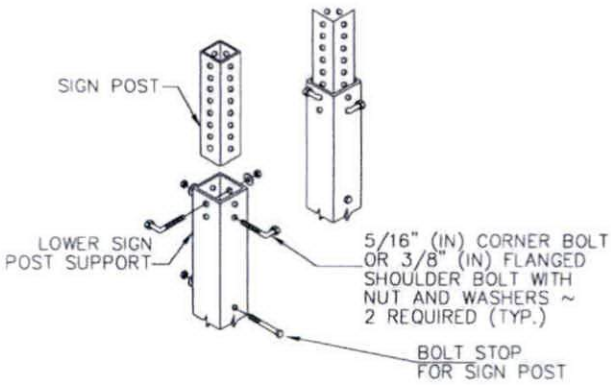


FOR REFLECTORIZED SIGNS: MOUNT FACING 3°(degree) OUTWARD IF SIGN IS WITHIN 30 FEET OF ROADWAY

SIGN FACE ORIENTATION



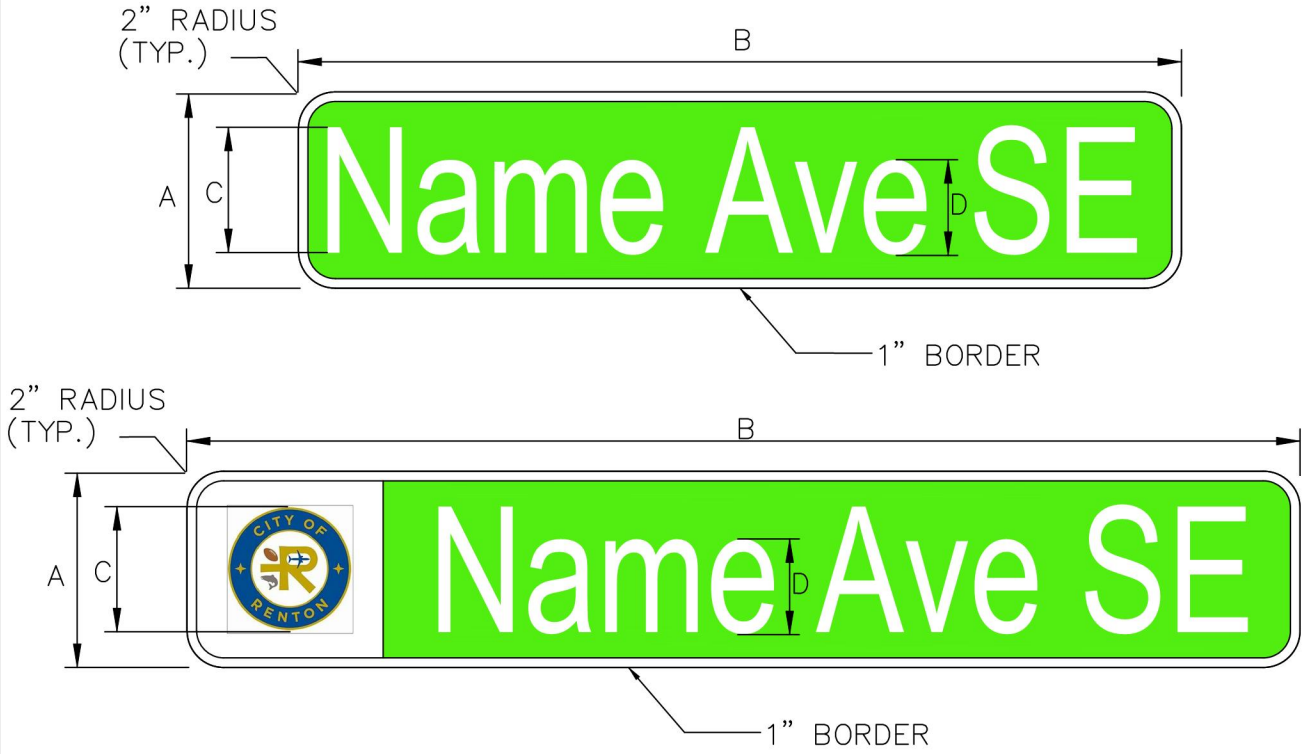
MOUNTING ON METAL POST



TYPE ST-4 SIGN SUPPORT

CITY OF RENTON PUBLIC WORKS DEPARTMENT	SIGN MOUNTING ON SINGLE METAL POST (ADOPTED)	STD. PLAN- 129 APPROVED: GZ DATE 9/29/16

DocuSign Envelope ID: B16CE03A-ED99-4F11-B559-FEB382C92BFB



SIGN TYPE	SIGN DIMENSIONS			
	A	B	C	D
MAST ARM MOUNTED	MIN 18"	VARIES	12"	9"

GENERAL NOTES:

1. FONT SHALL BE MUTCD D SERIES, UNLESS AN ALTERNATE MUTCD SERIES IS APPROVED BY THE CITY
2. SIGNS WITH TWO LINES OF STREET NAMES SHALL USE ARROWS TO INDICATE LOCATION OF STREETS
3. A CITY LOGO SHALL BE INCLUDED ON MAST ARM MOUNTED STREET NAME SIGNS THAT ARE TO BE INSTALLED IN DOWNTOWN CORE. SIZE OF LOGO SHALL BE AT LEAST 12" HIGH.
4. LETTERS AND NUMERALS SHALL BE CUT FROM 3M ELECTROCUT FILM SERIES 1170 OR APPROVED EQUAL
5. SIGN BLADE THICKNESS SHALL BE 0.125"
6. SIGN SHEETING SHALL BE 4000 SERIES 3M DIAMOND GRADE REFLECTIVE SHEETING OR APPROVED EQUAL
7. SIGN MOUNTING HARDWARE SHALL INCLUDE BOLTS, RIVETS SHALL NOT BE ALLOWED
8. FOR SIGN MOUNTING DETAILS, SEE WSDOT STANDARD PLAN G-30.10
9. SIGN PROOFS FROM THE MANUFACTURER SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO FABRICATION OF MAST ARM MOUNTED STREET NAME SIGNS

COLORS

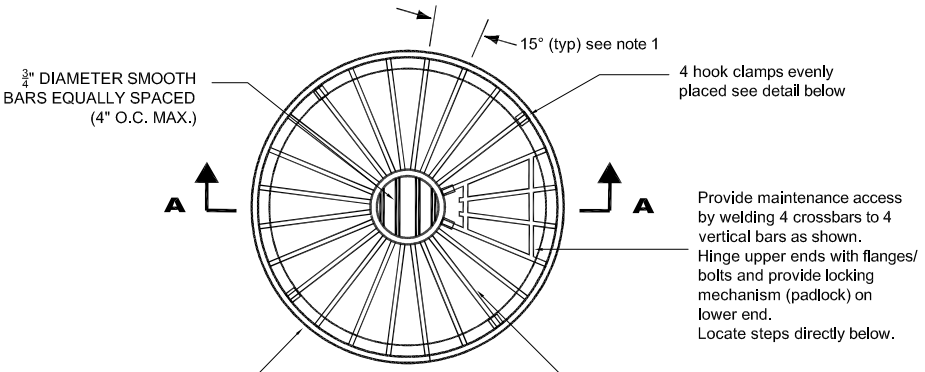
LEGEND, ARROW HEAD, SEPARATION BAR – WHITE (REFL.)

BACKGROUND – GREEN (REFL.)

CITY OF RENTON PUBLIC WORKS DEPARTMENT	MAST ARM MOUNTED STREET NAME SIGNS	STD. PLAN– 132 APPROVED: GZ 7/30/2018 DATE

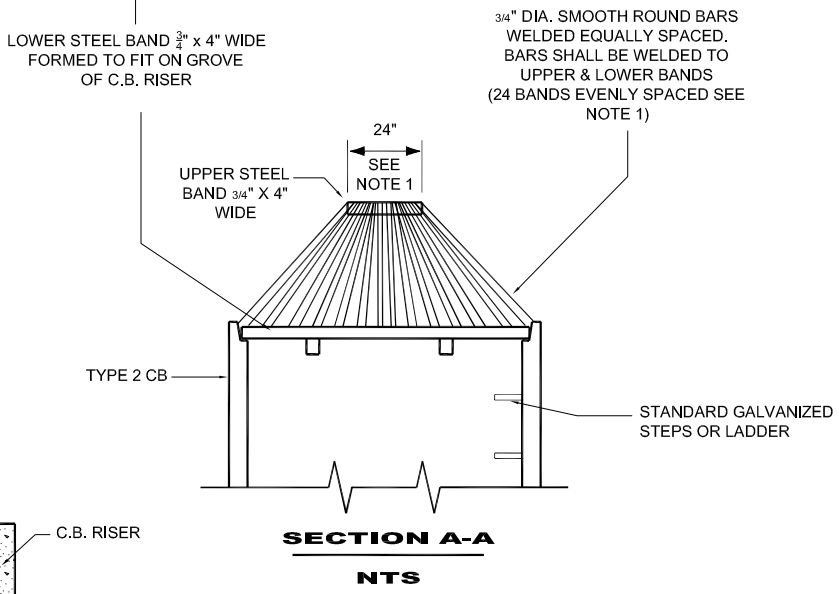
4:0

DRAWN BY: MARK SUJKA



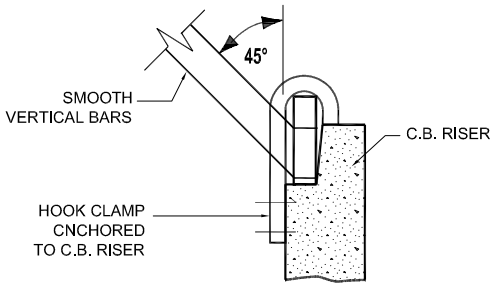
PLAN VIEW

NTS



SECTION A-A

NTS



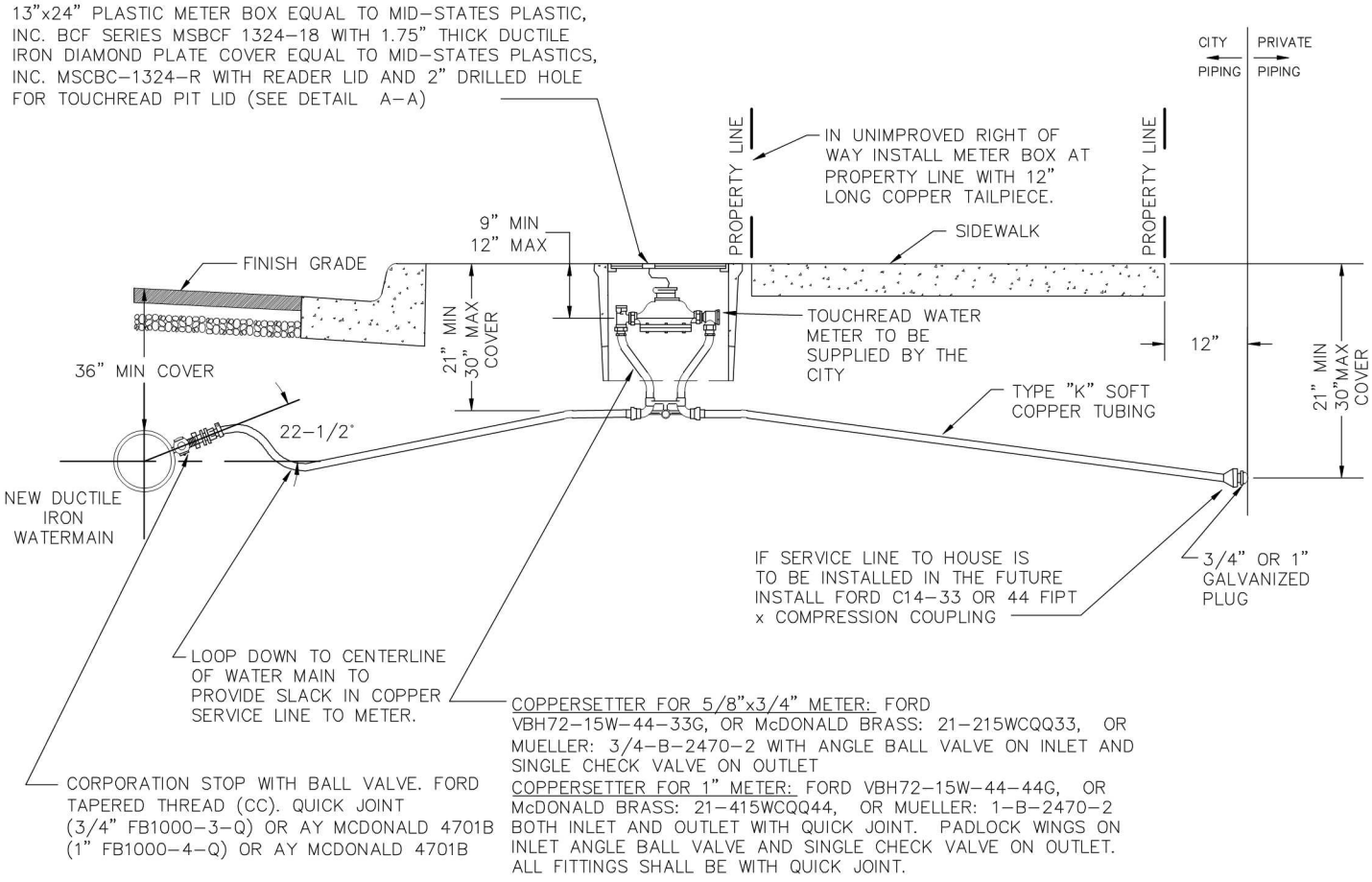
DETAIL HOOK CLAMP

NTS

NOTES:

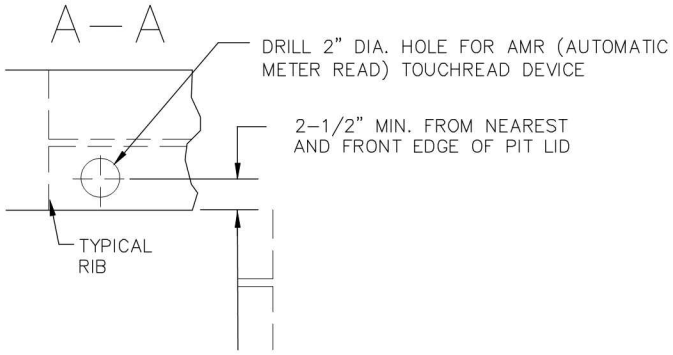
1. Dimensions are for illustration on 54" diameter CB. For different diameter CB's adjust to maintain 45°angle on "vertical" bars and 7" o.c. maximum spacing of bars around lower steel band.
2. Metal parts must be corrosion resistant; steel bars must be galvanized. The use of steel is prefer.
3. This debris barrier is also recommended for use on the inlet to roadway cross-culverts with high potential for debris collection (except on type 2 streams)
4. This debris barrier is for use outside of road right-of-way only. For debris cages within road right-of-way

CITY OF RENTON PUBLIC WORKS DEPARTMENT	**OVERFLOW STRUCTURE**	**STD. PLAN – 234.20** MARCH 2008



NOTE:

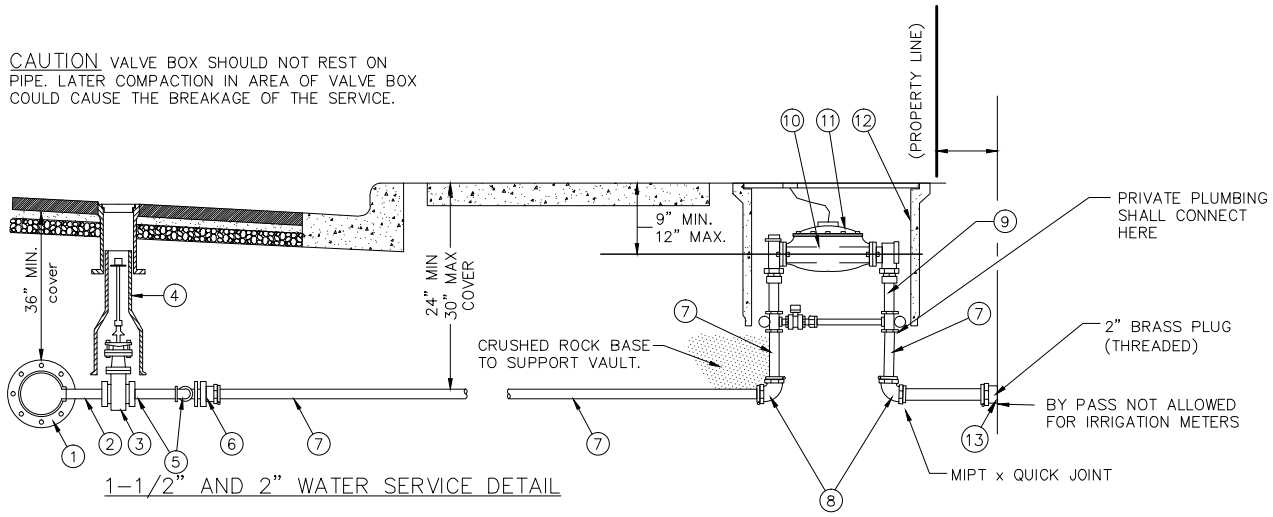
ALL METER BOXES INSTALLED WITHIN CONCRETE OR PAVED DRIVEWAYS SHALL BE CAST-IRON EQUAL TO OLYMPIC FOUNDARY. EXPANSION JOINTS MUSH BE INSTALLED ON BOTH SIDES OF METER BOX.



NOTE:

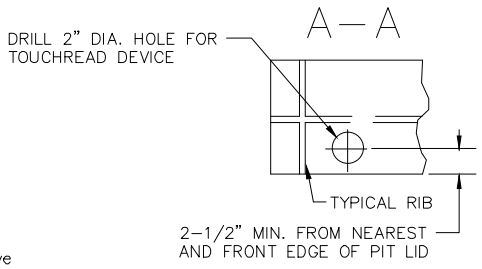
THE CENTER OF THE HOLE MUST BE AT LEAST 1" FROM UNDERNEATH RIBS UNLESS THE RIB SPACING ALLOWS THE NUT TO TIGHTEN AGAINST THE OPEN SIDE OF MORE THAN ONE RIB.

CITY OF RENTON PUBLIC WORKS DEPARTMENT	3/4" AND 1" WATER SERVICE	**STD. PLAN - 320.1** NOVEMBER 2009



MATERIAL LIST FOR 2" SERVICE WITH METER LOCATED IN RIGHT-OF-WAY BEHIND SIDEWALK

1. 2" tapped tee on new water meter.
2. 4" long X 2" brass nipple with threaded ends (MIPT).
3. 2" resilient seat valve with threaded ends, square operating nut and valve nut extension if required (see standard detail 330.1).
4. Two piece cast iron valve box. Standard 8" top section with regular base section, length to fit, "lug" type cover.
5. 2" brass bushing (MIPT x FIPT) 2 each 2" brass or bronze nipples 6" length, threaded ends 2 each 2"-90° brass or bronze elbows (FIPT x FIPT)
6. 2" (MIPT) x compression fitting, Ford C84-66 or equal.
7. 2" soft copper type K or brass nipples, length to fit.
8. 2" threaded brass 90° ell.
9. 2" Customsetter with by-pass Ford VBH 86-128-11-77 (17-3/16") or McDonald brass 30B715WDFF775, with flanged angle ball valve and padlock wings on inlet, and angle check valve outlet, ball valve on bypass with padlock wings. Customsetter shall have vertical inlet and outlet.
10. Rigid meter spreader to be supplied and installed in meter setter by contractor.
11. Water meter shall be supplied and installed by City of Renton upon payment of all related water meter fee and satisfactory pressure and purity tests.
12. 17"x30" equal to Mid-States Plastics, Inc. BCF Series MSBCF 1730-18 with 2" thick Ductile iron damond plate cover 18"x31" equal to Mid-States Plastics, Inc. MSCBC-1730-R with 2" drilled hole for touchread pit lid, and meter read lid.
13. 2" coupling (compression x FIPT) with 2" plug (MIPT), Ford C-14-66 or equal. The property owner is responsible for any necessary adaptation or extension of water service.



MATERIAL LIST FOR 1-1/2" SERVICE WITH METER LOCATED IN RIGHT-Of-WAY BEHIND SIDEWALK

1. 2" tapped tee on new water main
2. 4" long X 2" brass nipple with threaded ends (MIPT).
3. 2" resilient seat valve with threaded ends, square operating nut and valve nut extension if required (see standard detail 330.1).
4. Two piece cast iron valve box. Standard 8" top section with regular base section, length to fit, "lug" type cover.
5. 2" X 1-1/2" hex brass bushing (MIPT x FIPT), 2 each 1-1/2" brass or bronze nipples 6" length (threaded ends), 2 each 1-1/2"- 90° brass or bronze elbows (FIPT x FIPT)
6. 1-1/2" (MIPT) x compression fitting, Ford C84-66 or equal.
7. 1-1/2" soft copper type K or brass nipples, length to fit.
8. 1-1/2" pack-joint 90° ell, for Ford L44-77 or equal.
9. 1-1/2" Customsetter with by-pass Ford VBH 66-12B x 13-3/16" or McDonald brass, with flanged angle ball valve and padlock wings on inlet, and angle check valve outlet, ball valve on bypass with padlock wings. Customsetter shall have vertical inlet and outlet.
10. Rigid meter spreader to be supplied and installed in meter setter by contractor.
11. Water meter shall be supplied and installed by City of Renton upon payment of all related water meter fee and satisfactory pressure and purity tests.
12. 17"x30" equal to Mid-States Plastics, Inc. BCF Series MSBCF 1730-18 with 2" thick Ductile iron damond plate cover 18"x31" equal to Mid-States Plastics, Inc. MSCBC-1730-R with 2" drilled hole for touchread pit lid and meter read lid.
13. 1-1/2" coupling (compression x FIPT) with 1-1/2" plug (MIPT), Ford C-14-66 or equal. The property owner is responsible for any necessary adaptation or extension of water service.

NOTE:

ALL METER BOXES INSTALLED IN CONCRETE OR PAVED DRIVEWAYS SHALL BE CAST-IRON EQUAL TO OLYMPIC FOUNDARY.

EXPANSION JOINTS MUST BE INSTALLED 12" MINIMUM ON BOTH SIDES OF METER BOX.

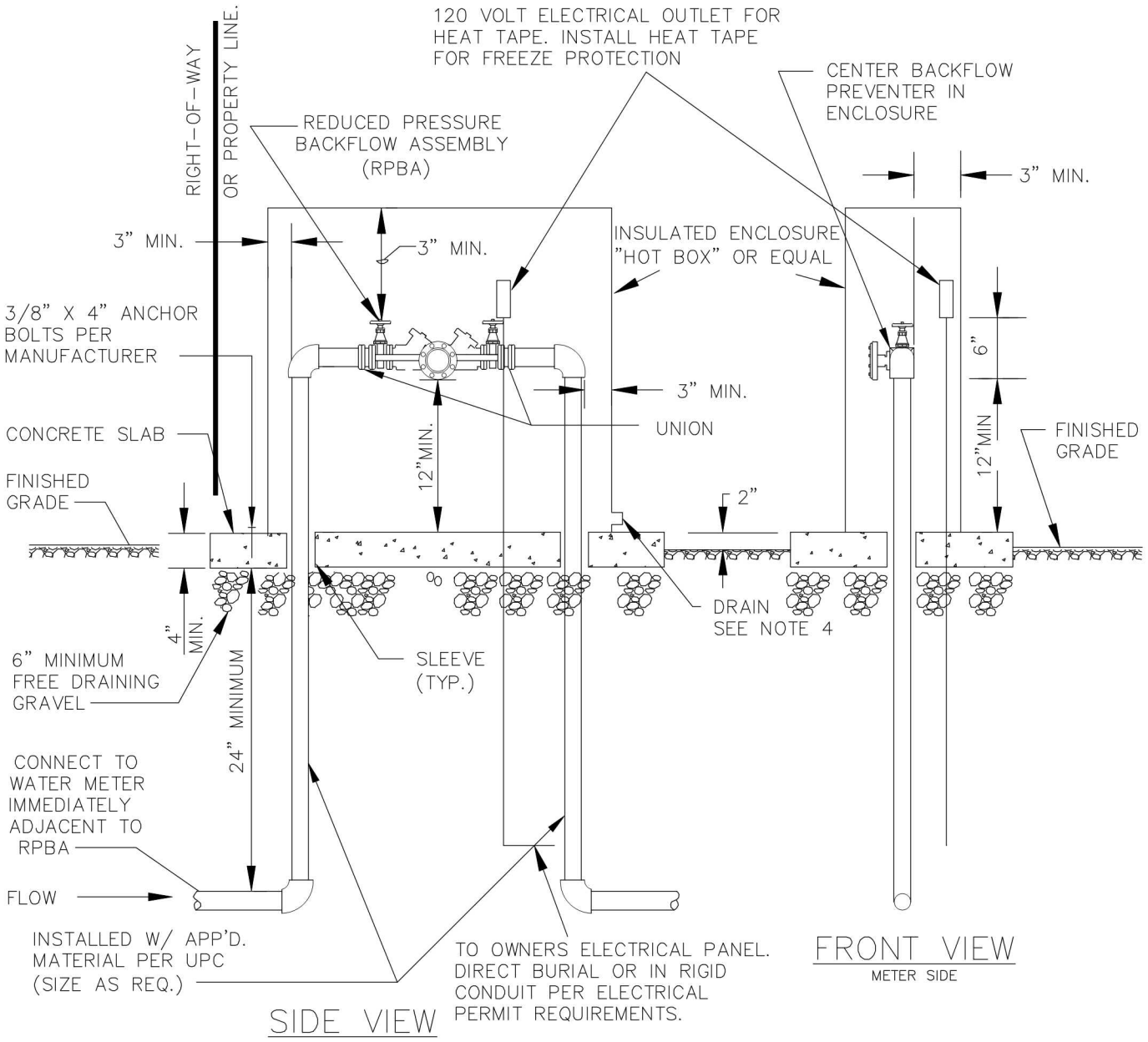
CITY OF RENTON

PUBLIC WORKS DEPARTMENT

2 AND 1 ½" WATER SERVICE LOCATED IN RIGHT OF WAY BEHIND SIDEWALK

STD. PLAN - 320.3

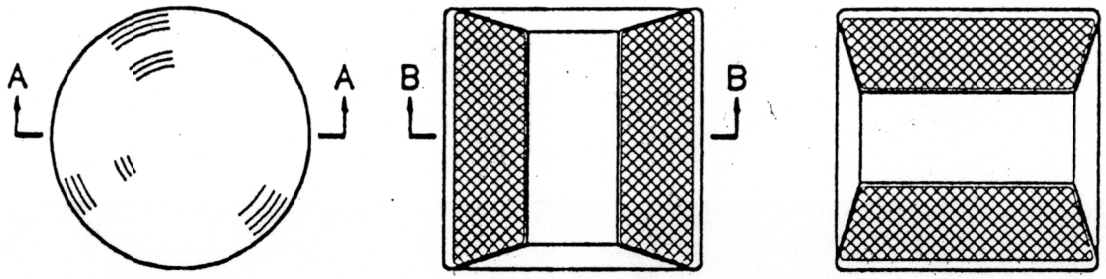
FEBRUARY 2010



NOTES:

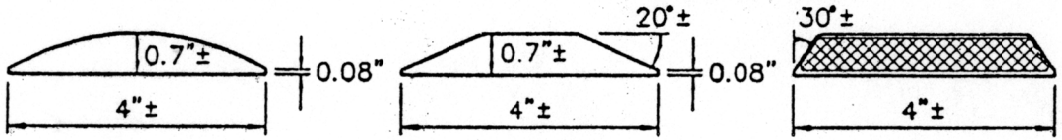
1. ALL REDUCED PRESSURE BACKFLOW ASSEMBLIES (RPBA's) MUST BE LISTED ON LATEST LIST OF "BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE", PUBLISHED BY STATE OF WASHINGTON DEPARTMENT OF HEALTH.
2. THE OWNER/APPLICANT MUST OBTAIN A SEPARATE CITY OF RENTON PLUMBING PERMIT FOR THE INSPECTION OF THE INSTALLATION OF THE RPBA AND PIPING. THE OWNER SHALL FURNISH, INSTALL AND MAINTAIN THE RPBA AND ALL PIPING AND APPURTENANCES SHOWN ON THIS PLAN.
3. THE RPBA MUST BE TESTED BY A STATE CERTIFIED BACKFLOW ASSEMBLY TESTER AFTER ITS INITIAL INSTALLATION, AFTER REPAIRS AND ANNUALLY THEREAFTER AT OWNER'S EXPENSE. A COPY OF THE TEST REPORT SHALL BE SENT OR FAXED TO CITY OF RENTON WATER UTILITY ENGINEERING DEPT., ATTN: WATER UTILITY CROSS-CONNECTION CONTROL SPECIALSIT, FAX NO. 425-430-7241.
4. DRAIN SHALL BE SIZED IN ACCORDANCE WITH AWWA CROSS CONNECTION CONTROL MANUAL STANDARDS 3" DRAIN FOR 1" OR SMALLER RPBA's, 4" DRAIN FOR 1.5" TO 2" RPBA's, 6" FOR 3" RPBA's.
5. RPBA AND ENCLOSURE SHALL BE LOCATED ON PRIVATE PROPERTY AND AS NEAR AS POSSIBLE TO THE WATER METER.

CITY OF RENTON PUBLIC WORKS DEPARTMENT	REDUCED PRESSURE BACKFLOW ASSEMBLY IN HOT BOX	**STD. PLAN – 350.2** MARCH 2010



TYPE 1

TYPE 2

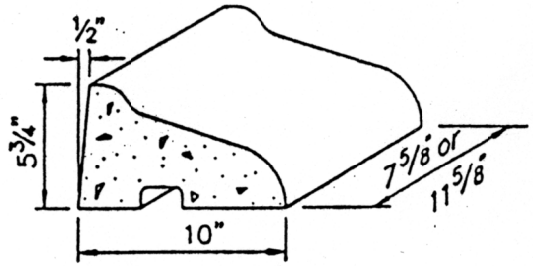


SECTION A–A

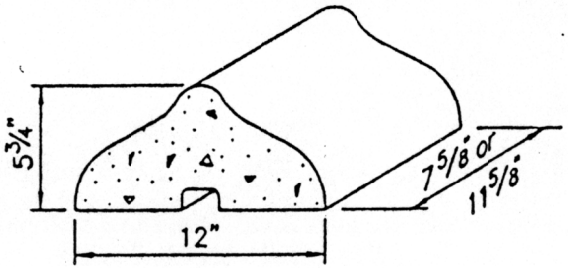
SECTION B–B

RPM TYPE 2 RAISED FACE COLORS	
Type 2a	White and Red
Type 2c	Yellow and Red
Type 2d	Yellow and Yellow
Type 2e	White – One Side Only
Type 2f	Yellow – One Side Only

RAISED PAVEMENT MARKERS (RPM)



TYPE "A" BLOCK



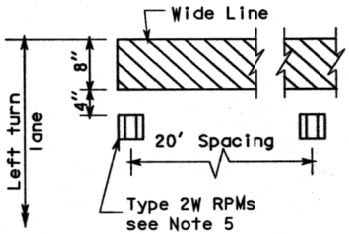
TYPE "C" BLOCK

PRECAST BLOCK TRAFFIC CURBS

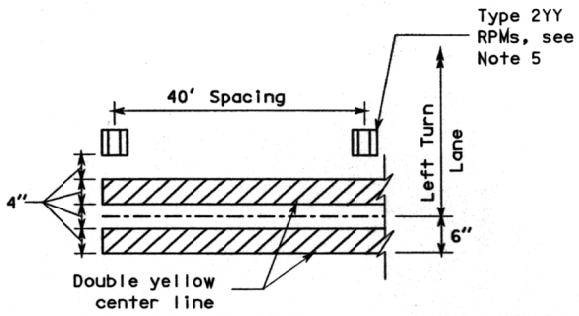
Raised Pavement Markers and Precast Block Traffic Curbs

ADOPTED
CITY OF RENTON
STANDARD PLANS
LST DATE:2-Oct-87

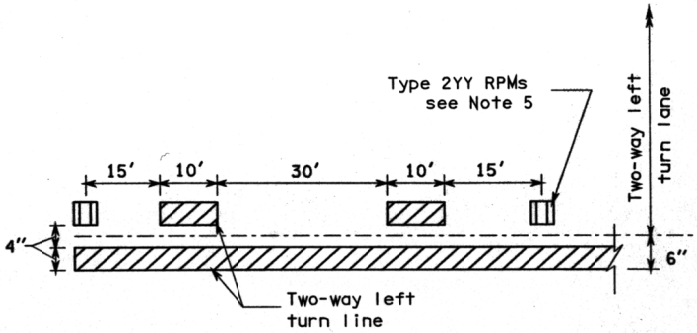
DWG NAME: HR-08 SP PAGE: H007



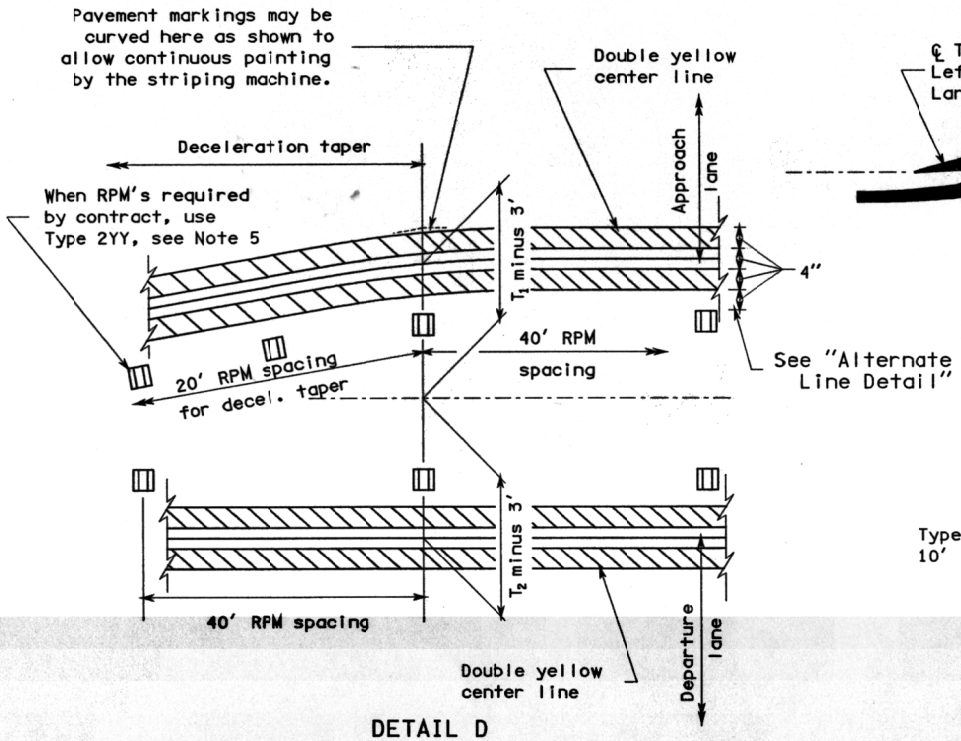
DETAIL A



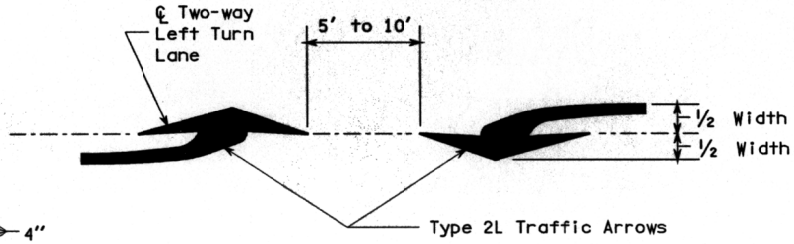
DETAIL B



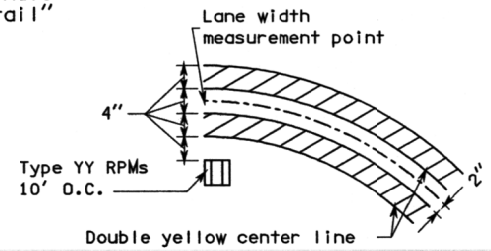
DETAIL C



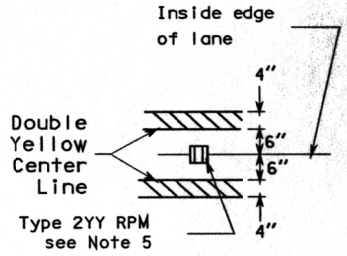
DETAIL D



DETAIL E



DETAIL F



ALTERNATE LINE DETAIL

EXPIRES OCTOBER 26, 2000

PAVEMENT MARKING DETAILS

STANDARD PLAN H-3a

SHEET 2 OF 2 SHEETS

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT & THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION UPON REQUEST.

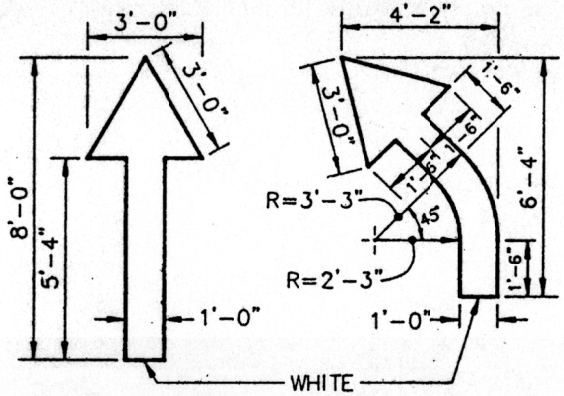
DATE	REVISION
5/00	CHANGED "GORE STRIPE" TO "WIDE LINE". TRAFFIC ARROWS TO NARROW TRAFFIC

CITY OF RENTON

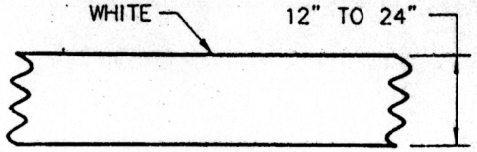
ADOPTED
CITY OF RENTON
STANDARD PLANS

LAST DATE: 06/23/2000

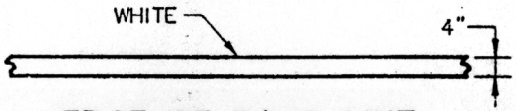
SP PAGE **H008.2**



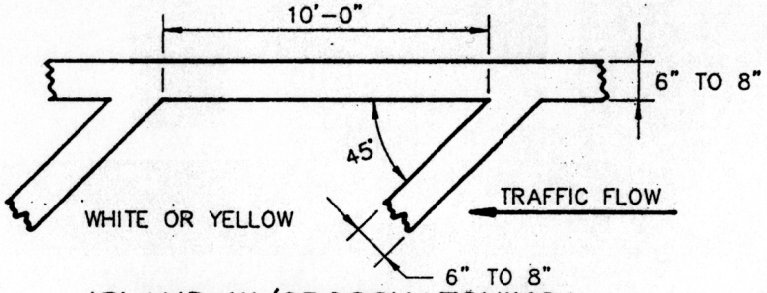
TURN MARKINGS



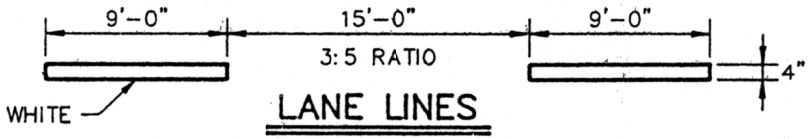
STOP LINE



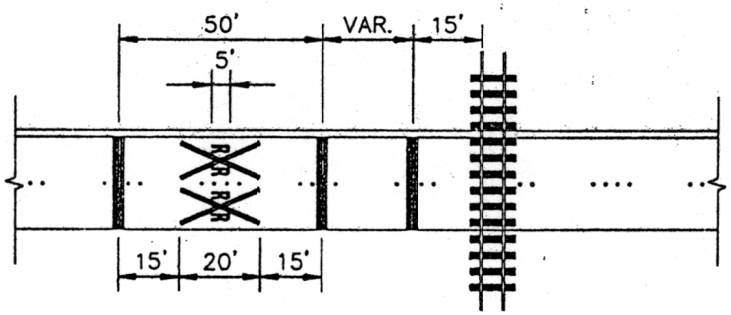
EDGE OF ROAD LINE



ISLAND W/CROSSHATCHING



LANE LINES

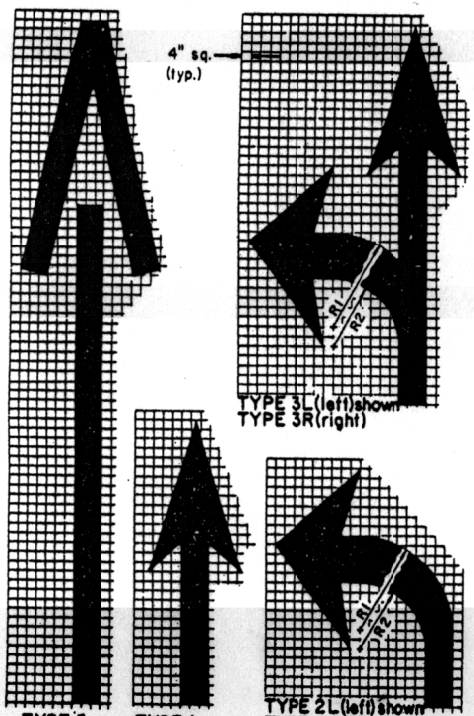


RAILROAD CROSSING MARKING

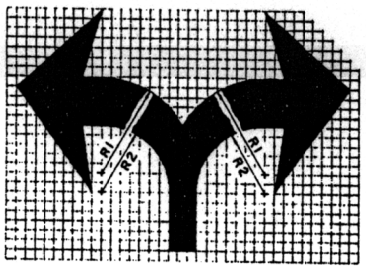
Pavement Marking Details

ADOPTED
CITY OF RENTON
STANDARD PLANS
LST DATE:1-Aug-90

DWG NAME: HR-03 SP PAGE: H008

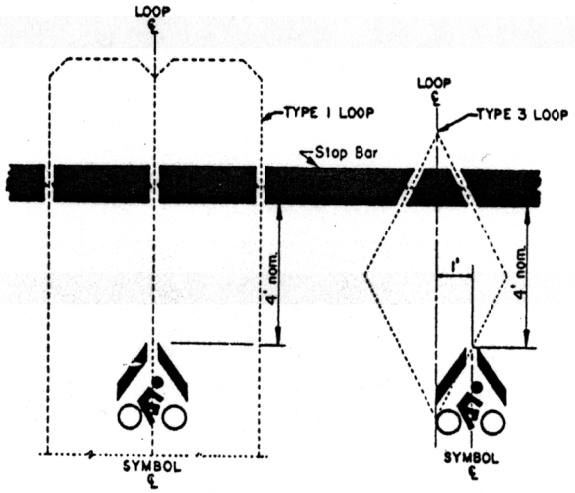


ARROW SYMBOLS



TYPE 4

R1 = 10 units
R2 = 7 units



CYCLE DETECTOR SYMBOL LOCATION

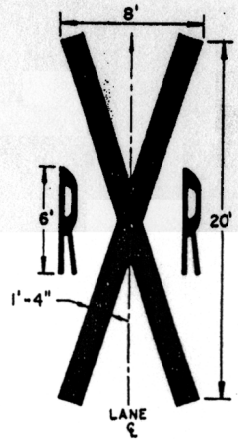
NOTES:

See contract for location and material requirements.

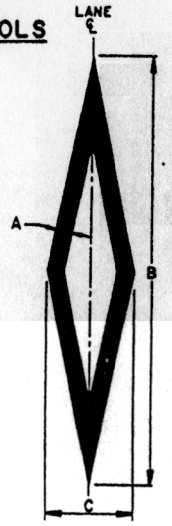
Traffic letters shall conform to the FHWA Publication Standard ALPHABET for HIGHWAY SIGNS and PAVEMENT MARKINGS.

With the exception of the railroad crossing symbol letters, all traffic letters shall be 8 feet in height.

TYPE 3 Preferential Lane Symbol shall be installed only on designated bicycle lanes.

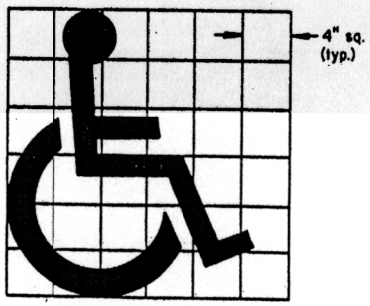


RAILROAD CROSSING SYMBOL

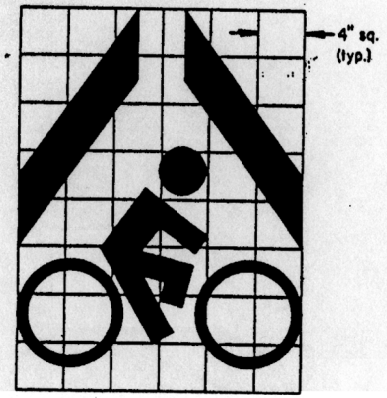


TYPE	A	B	C
1	1'	24'	5'
2	6"	12'	2'-6"
3	4"	6'	1'-3"

PREFERENTIAL LANE SYMBOL



HANDICAPPED PARKING STALL SYMBOL

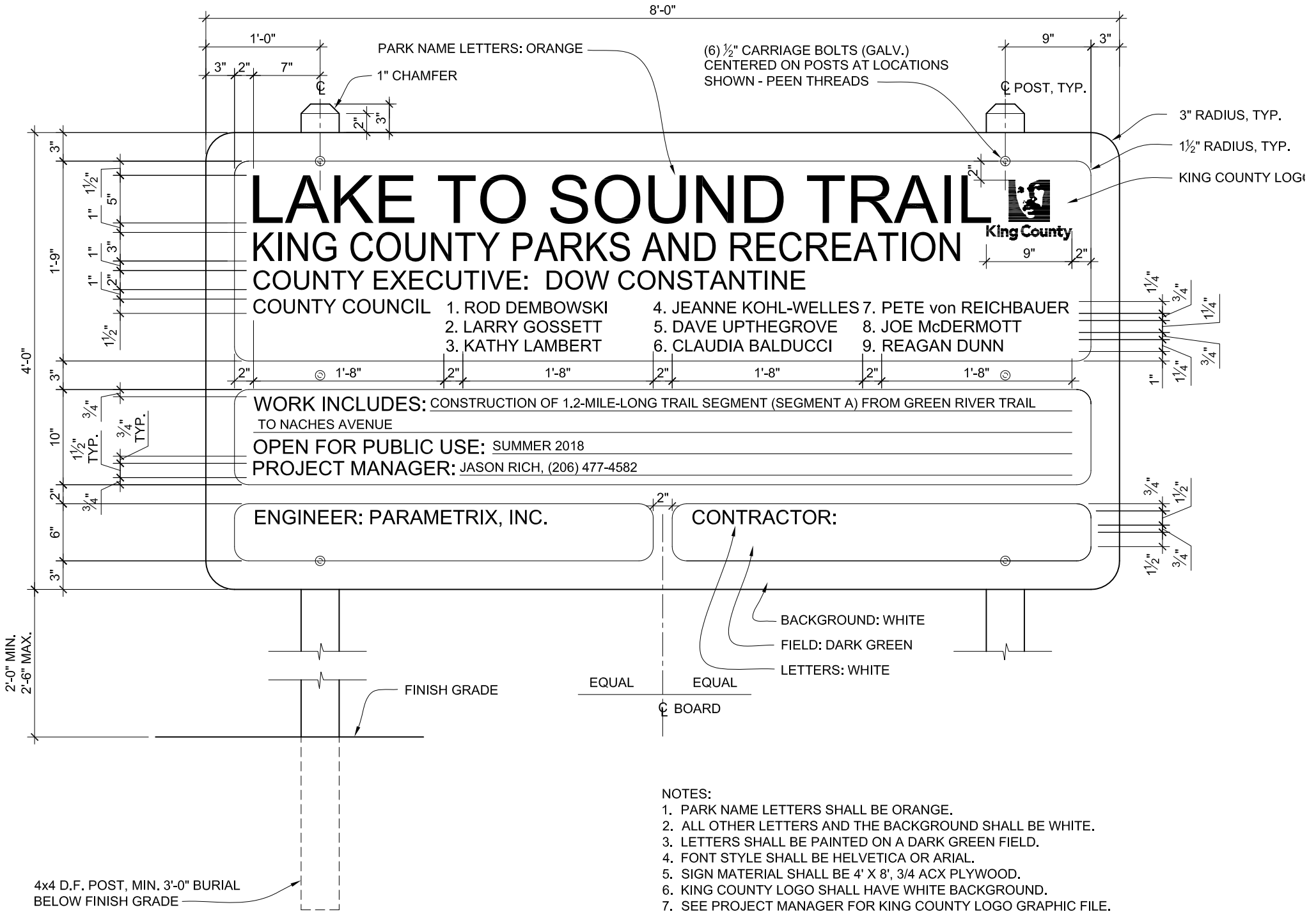


CYCLE DETECTOR SYMBOL

PAVEMENT MARKINGS
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

CITY OF RENTON

ADOPTED
CITY OF RENTON
STANDARD PLANS
LST DATE: 17-Jul-81
SP PAGE: H009



NOTES:
1. PARK NAME LETTERS SHALL BE ORANGE.
2. ALL OTHER LETTERS AND THE BACKGROUND SHALL BE WHITE.
3. LETTERS SHALL BE PAINTED ON A DARK GREEN FIELD.
4. FONT STYLE SHALL BE HELVETICA OR ARIAL.
5. SIGN MATERIAL SHALL BE 4' X 8', 3/4 ACX PLYWOOD.
6. KING COUNTY LOGO SHALL HAVE WHITE BACKGROUND.
7. SEE PROJECT MANAGER FOR KING COUNTY LOGO GRAPHIC FILE.